The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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MR. JAMES H. CROFTS, STOCK AND SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.
BUSINESS negociated in Stocks and Shares not having a general market value.
Every Friday a general and reliable List issued (a copy of which will be forwarded on application), containing closing prices of the week. MINES INSPECTED.
BANKERS: CITY BANK, LONDON—SOUTH CORNWALL BANK, ST. AUSTELL.
TELEPHONE NUMBER 1003.

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50 Asia Minor, 6s.
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60 Consolidated, 2s.
50 California, 12s. 9d.
50 Colorado, £2 16s.
40 Canada Copper, 6s.
80 Chontales, 5s. 3d.
75 Cor. South Australian Copper, 5s.
90 Denver, 2s. 9d.
50 Devala Moyar, 3s. 6d.
20 Devon Consols, £3⅜.
200 Devon Friend., 1s. 6d
50 Devon United, 10s. 6d
10 Dolcoath, £77½.
80 Don Pedro.
50 Drakewalls, 5s. 6d.
35 Duchy Peru, 20s.
200 East Blue Hills, 4s. 6d
40 Eberhardt, 5s. 6d.
50 East Caradon, 1s.
50 East Lovell.
80 East W. Rose, 13s. 6d.
70 Ecton, 32s. 6d.
80 Flagstaff, 1s. 3d.
60 Frongoch.
50 Frontino, 17s.
50 Goginan, 3s. 3d.
90 Gold Coast, 4s. 6d.
30 Grogwinion, 5s.
100 Guinea Coast Gold, 3s
15 Great Laxey, £10 18 9
15 Gunnislake (Clitters), 18s.
100 Hoover Hill.
50 Home Mines Tst., 16s
300 Indian Consoli., 1s. 9
185 Indian Glenrock, 2s. 6
85 Javali, 2s. 9d.
100 Kapanga, 3s. 3d.
50 Killifreth, 16s.
50 La Plata (New), 7s.
80 Last Chance.
25 Leadhills, £2½.
100 Lisbon-Berlyn, 20s. 3d
55 Marke Valley, 6s.
25 Michipicoten.
15 Mona, £1¼.
100 Mounts Bay, 5s. 6d.
140 Mysore Gold, 7s.
100 New Caradon, 2s.
100 New Callao, 5s.
60 New Emma, 2s. 6d.
25 New Quebrada.
200 North Blue Hills, 3d.
20 New Kitty.
50 Nouveau Monde, 2s. 9
50 North Penstruthal.
25 New West Caradon.
50 Old Shepherds, 17s.
20 Organos, 23s. 9d.
60 Orita, 16s.
70 Potosi (Old), 3s. 3d.
120 Port Phillip, 1s. 6d.
130 Parys Copper, 1s. 3d.
10 Phœnix United, £2¾.
20 Panulcillo, £5 3s. 9d.
100 Prince of Wales, 2s.
70 Pestarena, 1s. 6d.
20 Rio Tinto, £20½.
25 Ruby, 21s.
50 Rhodes Reef, 2s. 9d.
25 Richmond, £3 11s. 3d
30 Roman Gravels, £4¼.
20 South Caradon, 16s.
25 South Condurrow, £9 18s. 9d.
50 South Darren, 6s. 9d.
100 South East Wynaad, 2s. 9d.
25 South Devon Uni., 4s
25 So. Penstruthal, 10s.
50 Tambracherry, 4s. 6d.
200 Tanker. Gt. Con., 9d.
20 Tolima A.
20 ditto B.
120 Tresavean, 9s. 6d.
25 Trevaunance, £2 2s.
20 Untd. Mexican, £2 2¾
50 Victoria Gold, 14s.
20 Van.
20 Wheal Agar.
15 Wheal Basset.
50 West Callao, 5s. 6d.
50 West Phœnix, 8s. 6d.
200 West Caradon, 1s.
80 West Crebor, 2s. 6d.
20 West Polbreen.
25 West Kitty.
25 West Poldice.
25 Wheal Coates, 4s.
10 Wheal Crebor, 36s.
50 Wheal Jane.
25 Wheal Kitty.
50 Wheal Silver & Lanteglos.
30 Wynaad Perseverance

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*** SPECIAL BUSINESS at CLOSE PRICES in all Market TIN, COPPER and LEAD SHARES.
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JAMES H. CROFTS, 1, FINCH LANE, LONDON.

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JAMES H. CROFTS, 1, FINCH LANE, LONDON.

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*** SHARES IN THE ABOVE SOLD FOR FORWARD DELIVERY ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.
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Anglo-American Hammond. Swan.
Brush. Maxim-Weston.
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EAST WHEAL ROSE, OLD SHEPHERDS, MOUNTS BAY, TRESAVEAN, HOME MINES TRUST, DUCHY PERU.
SPECIAL BUSINESS in the above for cash or account.
FOR SPECIAL SALE, for FORWARD DELIVERY, ONE, TWO, or THREE MONTHS, subject to deposit of TWENTY PER CENT.—100 Duchy Peru, 20s.; 100 East Wheal Rose, 14s.; 200 Old Shepherds, 17s.; 100 Tresavean, 10s.; 200 Mounts Bay, 6s.
JAMES H. CROFTS, 1, FINCH LANE LONDON.
ESTABLISHED 1842.

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25 Colorado, £2¾.
100 California Gold, 12s 3
20 Coplapo, £3½.
70 Callao Bis, 8s.
2 Dolcoath.
15 Devon Consols, £3⅛.
100 East Whl. Rose, 15s. 6
3 East Pool.
100 Eberhardt, 5s. 9d.
30 Ecton, 30s.
50 Frontino.
50 Frongoch, 10s. 6d.
100 Goginan.
10 Great Laxey, £10¾.
100 Home Mines Trust, 16s. 6d.
25 Killifreth.
50 Kapanga, 4s.
70 Lake Superior, 37s. 6d
40 Leadhills, £2½.
100 La Plata, 7s.
50 Lisbon-Berlyn, 19s.
20 Minera, £5¼.
75 Montana, £2⅞
100 Nouveau Monde, 2s. 9
100 N. Trumpet Consols, 16s.
25 New Kitty.
40 Organos, 31s. 6d.
25 Orita, 17s. 6d.
100 Old Shepherds, 17s.
50 Potosi (New), 10s. 6d
50 Prince of Wales, 9s.
40 Polberro.
30 Panulcillo, £5¼.
70 Pen-yr-Orsedd, 5s.
25 Roman Gravels, £4.
50 Ruby, 20s.
20 Richmond.
100 South Caradon, 12s.
50 Trevaunance.
10 Tolima A., £7⅞.
20 do B., 5s.
40 United Mexican, £4¼
50 Wheal Coates, 5s.
100 West Godolphin, 21s.
10 Wheal Grenville.
15 West Kitty, £13.
50 Wheal Crebor, 36s. 6d
50 West Polbreen.

Where prices are not inserted offers may be made.
SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.
Mr. BUMPUS devotes special attention to these Securities, and is in a position to afford reliable information and advice to intending investors and others,
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ESTABLISHED 1867.

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OLD BROAD STREET, LONDON, E.C.
BANKERS: THE ALLIANCE BANK (Limited).

MESSRS. PETER WATSON AND CO.'S BRITISH AND FOREIGN MONTHLY MINING NEWS—STOCK AND SHARE INVESTMENT NOTES—MINES, MINERALS, AND METAL MARKETS—SHARE LIST, No. 865, VOL. XVII., for MAY month, is ready, and will be sent to customers on application.
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50 Almada Silver, 9s. 6d.
15 Bratsberg Copper, 34s. 6d.
50 Callao Bis Gold, 7s 6d
80 Colombian Hydraulic Gold, 7s.
50 Carn Camborne Tin & Copper.
50 Chontales Gold, 4s 6d
25 Corporation of South Australia Cop., 4s.
50 Cartago Gold.
100 Devon Friendship, 2s
2 Dolcoath Tin, £76½.
50 Duchy Peru Silver-id.
30 East Rose Lead, 14s.
40 East Blue Hills Tin, 5s. 6d.
20 East Lovell Tin, 15s.
40 Ecton Copper, 32s. 6d
80 Gold Coast.
100 Home Mines Trust, 17s.
50 La Plata Lead, 7s. 6d.
40 Leadhills, £2½.
50 Lisbon-Berlyn Gold, 21s.
75 Mounts Bay, 6s. 3d.
20 New Kitty Tin, £1⅝.
50 New West Caradon Copper, 2s. 6d.
60 New Caradon Copper.
50 New Callao Gold, 5s 6
200 Nouveau Monde Gold 2s. 9d.
100 North Blue Hills, 9d.
40 Old Shepherds, 17s.
20 Organos, 31s. 3d.
50 Orita Gold.
60 Prince of Wales, 7s. 9
50 Potosi Gold, 3s.
75 Port Phillip Gold.
40 Parys Copper.
10 Richmond Silver, £3 11s. 3d.
10 Roman Gravels Lead.
40 Ruby, 20s.
20 Schwab's Gully Diamond, £8.
50 Sortridge Copper and Tin, 6d.
5 South Frances Tin.
20 South Darren Silver-Lead, 6s.
50 South Caradon Copper 16s.
80 South Kitty Tin, 10s.
15 Trevaunance.
100 Tankerville Gt. Con., 1s.
60 Tresavean Copper & Tin, 10s.
10 Tolima A.
20 Untd. Mexican Silver.
40 Victoria Gold, 15s.
10 Western Andes.
25 West Callao Gold, 6s.
100 West Caradon Copper 9d.
20 West Polbreen Tin.
50 West Gonamena Cop.
10 West Kitty Tin, 13s.
50 Wheal Jane Tin.
50 Wheal Coates.
5 Wheal Agar Tin, £17⅝.
15 Wheal Crebor Copper £1 16s. 3d.
20 Wheal Silver and Lanteglos.
100 West Crebor Copper. 2s. 6d.
15 West Godolphin, 20s

TEN PER CENT. DEPOSIT.—Many of the above shares can be sold for settlement by arrangement at the end of May or Mid-June on payment of 10 per cent. deposit. Shares not found in the above list may be purchased on application.
The CURRENT QUOTATIONS appear in the Leading Article of the MINING JOURNAL; and, in order to save unnecessary correspondence, customers are invited to make offers either to BUY or SELL shares at prices based on those quotations.
GOOD INVESTMENT.—SCHWAB'S GULLY DIAMOND SPECIALLY RECOMMENDED. A few shares are still on sale to pay 25 per cent.
ALFRED E. COOKE, 9, OLD BROAD STREET, LONDON.

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(Opposite the Stock Exchange, with which the offices are in DIRECT TELEGRAPHIC COMMUNICATION.)
TELEPHONE NUMBER, 1268.

MR. JAMES STOCKER, STOCKBROKER,
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.,
Has Special Business in the following for cash or settlement by arrangement free of commission:—

60 Almada.
30 Bratsberg.
120 Consolidated Silver.
70 Californian.
50 Callao Bis.
25 Carn Camborne.
70 Chile Gold.
100 Chontales.
95 Colombian.
55 Colorado.
50 Cor. So. Austra. Cop.
60 Copiapo.
50 Devon Friendship.
15 Devon Consols.
100 Denver.
100 Ecton.
60 East Rose.
100 Gold Coast.
60 Home Mines.
60 Kapanga.
150 Kohinoor B.
50 La Plata.
80 Lisbon-Berlyn.
40 Montana.
100 Mounts Bay.
75 New Callao.
70 Old Shepherds.
80 Orita.
40 Organos.
40 Panulcillo.
80 Potosi.
30 Richmond.
20 South Frances.
70 Tresavean.
50 Transvaal Gold.
30 Tolima A.
30 United Mexican.
100 Victoria Gold.
60 West Callao.

The following SHARES WANTED for CASH:—
20 Bratsberg.
40 Colorado.
50 East Wheal Rose.
50 Home Mines.
25 United Mexican.
60 Victoria Gold.
30 Organos.
50 Orita.
70 Chontales.

Railways, Foreign Bonds, Gold and Silver Mines, Miscellaneous Shares, and all Stock Exchange Securities.
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BANKERS: LONDON JOINT-STOCK.

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The shares of this mine are in favour, and will advance probably to a very high figure. The mine has been inspected by gentlemen who are well known, and whose opinions are universally respected. Mr. REYNOLDS will be happy to furnish the particulars of their report, and to give to his correspondents any information in his power. The books of the company and all other particulars are open for inspection at the company's offices. The management is the same as that of West Kitty, and the property promises to be of a very high order. Mr. REYNOLDS directs attention to the fact that those who have purchased the shares can already obtain a fair profit. Mr. REYNOLDS further directs attention to the fact of his having been the first to introduce West Kitty, under very similar circumstances to those which now characterise Polberro, St. Agnes, and Mr. REYNOLDS with equal confidence recommends the latter company's shares. West Kitty, with at present 12s. per share paid, returns 30s. per share per annum as a minimum dividend with every prospect of further increase. When West Kitty shares had only 2s. per share paid they were at a premium of £2 each.
Mr. REYNOLDS refers to his remarks on page 539.

THE
"DIFFERENTIAL"
PUMPING ENGINE
(DAVEY'S PATENT),
FOR
DRAINING MINES, WATER SUPPLY OF TOWNS, IRRIGATION, SUPPLYING DOCKS, PUMPING SEWAGE, and GENERAL PUMPING PURPOSES.
HATHORN, DAVEY, AND CO.,
LEEDS.
HATHORN, DAVEY, and Co. have Patterns of "Differential" Engines of all sizes, from 5 to 500 horse power, and have facilities for supplying very powerful Engines and Pumps at a short notice.

COLLIERY, MINING, and OTHER ENGINEERS wanting articles in STEEL to RESIST GREAT WEAR AND TEAR, combining lightness and strength, avoid stoppages, breakdowns, &c., see page 561.

FERDINAND R. KIRK, STOCKBROKER,
5, BIRCHIN LANE, LONDON, E.C.
SPECIAL BUSINESS in the following:—

30 Bratsberg.
90 Chontales.
120 Colombian Hydraulic
80 Copiapo.
70 East Wheal Rose.
80 Great Holway.
100 Home Mines Trust.
40 Montana.
100 Old Shepherds.
90 Organos.
60 Transvaal Gold.
40 United Mexican.

SHARES WANTED:—
100 Canadian Copper.
60 Chontales.
40 Devon Consols.
80 East Wheal Rose.
40 Great Laxey.
100 Home Mines Trust.
50 Old Shepherds.
100 Orita.
60 Victoria Gold.

Sellers should state whether for cash or account, and name their price.
Fortnightly accounts opened in Home Railways, Foreign Bonds, American and Canadian Railways, on receipt of the usual cover.
BANKERS: LONDON AND WESTMINSTER, Lothbury.

MR. CHARLES THOMAS,
MINING AGENT, STOCK AND SHARE DEALER,
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MR. J. GRANT MACLEAN,
SHAREBROKER AND IRONBROKER, STIRLING, N.B.,
Refers to his Share Market Report on page 533 of to-day's Journal.

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LEADENHALL HOUSE, 101, LEADENHALL STREET, LONDON, E.C.

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FOR SALE, 50 West Caradon, 50 New West Caradon, and 100 New Caradon.
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BANKERS: LONDON AND WESTMINSTER, Lothbury, E.C.

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Deals in all descriptions of STOCKS and SHARES at close market prices.

MESSRS. H. HALFORD AND CO.,
STOCK AND SHARE BROKERS
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Have BUSINESS in ECTON COMPANY SHARES.
SELLERS are requested to communicate with the above.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
29, BISHOPSGATE STREET, LONDON, E.C.
BANKERS: ALLIANCE BANK (Limited).

MESSRS. PENNINGTON AND CO., SWORN BROKERS AND SHARE DEALERS, 13, MOORGATE STREET, LONDON, E.C.
BUSINESS in all DESCRIPTIONS of STOCKS, MINING and other SHARES.
ESTABLISHED 1869—BANKERS: ALLIANCE (Limited).

HORACE J. TAYLOR,
(Seven Years Assistant-Secretary to the Port Phillip and Colonial Gold Mining Company (Limited).
38, GREAT ST. HELEN'S, LONDON, E.C.,
STOCK, MINING, AND MISCELLANEOUS DEALER.
ESTABLISHED 1874.
BANKERS: CENTRAL BANK OF LONDON (Limited).

BUYER or SELLER of the following:—

50 Almada and Tirito.
75 Bratsberg.
150 California Gold.
100 Callao Bis.
50 Chile Gold.
250 Chontales.
200 Colombian Hydraulic.
150 Corporation So. Aus. Copper.
125 Devon Friendship.
175 East Blue Hills.
75 East Wheal Rose.
50 Eberhardt.
200 Flagstaff District.
75 Frontino.
100 Gold Coast.
75 Gunnislake (Clitters).
125 Homes Mines Trust.
75 Killifreth.
150 La Plata.
200 Mounts Bay.
50 New Emma.
125 Nouveau Monde.
100 Old Shepherds.
50 Organos.
175 Orita.
150 Parys.
75 Potosi.
50 Prince of Wales.
15 Ruby.
75 South Caradon.
125 Tresavean.
25 Tolima A.
50 do B.
10 United Mexican.
200 Victoria Gold.
125 Wheal Crebor.

TOLIMA A AND B.—Special business in these shares.

MANCHESTER GEOLOGICAL SOCIETY.

THE DESCENT OF ELECTRIC CURRENTS INTO COAL MINES.

The ordinary monthly meeting of the members of the above Society was held on Tuesday at Manchester, Mr. Joseph Dickinson, Her Majesty's Chief Inspector of Mines, occupying the chair, and the whole of the business of the meeting was devoted to questions connected with mining.

Mr. John Knowles, M.Inst.C.E., read a paper describing the descent of an electric current into the New Rivin Pit, one of the collieries owned by Messrs. Andrew Knowles and Sons (Limited). During a thunderstorm which took place on Feb. 21 last, a distinct shock was felt in the workings at the New Rivin Pit, Little Lever, near Bolton. The colliery was situate close to Hall-lane, the main road between Moses-gate and Radcliffe, and about three miles from Bolton, the upcast pit being about 30 yards from the road and the downcast 50 yards. The upcast pit was 9 ft. in diameter inside the brickwork, which rose as a chimney about 24 ft. above the ground. In this pit there was no winding, but there was one pulley 5 ft. in. diameter which stood without rope, to be used with a portable capstan engine in case of emergency. There were also two folding iron doors, which took up a space in the chimney 8 ft. high by 5 ft. wide. The pit was 97 yards deep. The downcast pit was also 9 ft. in diameter and 97 yards deep, with a sump of 14 yards further. In the pit were four iron-wire guides 1¼ in. in diameter, and two iron-wire ropes between the cages; the former went into the water at the sump, and the latter terminated just below the landing plates. There were also a bell-wire of galvanised iron, and 3-in. steam-pipes, which were mostly uncovered. The two cages were made of iron, a steel rope being used for one cage, and an iron rope for the other. This pit was surrounded with the ordinary cast-plates and rails, but there was not any connection with the chimney of the upcast shaft. There was the usual buildings about the pits—engine-house, boilers, and cabins, also a chimney 6 ft. square and 20 yards high, but no lighting conductor on it. At the bottom of the downcast pit there were the usual plates and rails, with the steam-pipes extending to two engines on the east side and one on the west. Those going eastward were laid up a brow, with a gradient of 1 in 3 to the Lower Three Yards Mine, and then a short distance on a level to the first engine, which wound up the downbrow in this mine. At this point there was a rise tunnel to the Lower Yard Mine, worked as a self-acting incline. The steam-pipes were carried to the top of this tunnel, and then on a short level to the engine at the top of a downbrow in the Yard coal, where a wire-rope was used to wind the coil up to that point. There was also a wire-rope used in that brow to work a small pump, which forced water to the top of the incline, whence it ran to the pit. On the west side the steam-pipes were laid in a level in the Lower Yard Mine to a small engine, which wound coal up a dip tunnel from the Lower Three Yards Mine. This engine had a 6-inch cylinder with 10-in. stroke, the dip tunnel being 48 yards long, with a gradient of 1 in 5. The electric current appeared to have struck the chimney at the top of the upcast pit about 2·30 P.M. on the day named. It displaced a large quantity of brickwork and then came down outside the chimney, striking the ground close to it and making a large hole. It then went along the ground to the cast-plates at the top of the downcast pit, and, it was presumed, went down the steam-pipes, and so into the workings—on the east side going through the yard, down brow engine, and along the rope to the wagons; and on the west side passing along the pipes to the engine, where the manager was standing. The strength of the current must have been very great, as experienced by a wagoner seated four or five yards from the bottom of the downcast, as he stated that he saw a brilliant flash and heard a great noise, which sounded as if in the pit. He had the heel of his clog on one of the plates at the time, and felt a tingling sensation in his leg, which lasted a day or two, and the sole of his clog was burnt, as if hot iron had been drawn over it. Other men in the pit also experienced a sensation which they described as resembling the shock received at an electrifying machine. The manager, who was on the west side in the Lower Yard Mine, at a small engine 300 yards from the pit, had his hand on the steam handle, and felt a shock which numbed him for a few seconds, so that he could not see or move, and was afterwards so completely prostrated by the effects of the shock that he was confined at home to bed for six days before he was able to get up and walk. From the statements which had been made by the men it would appear that there must have been a very strong current of electricity passing down the ironwork of the pit, and it was fortunate that much of it was distributed before it reached the workmen in contact with any metal. The manager being the nearest in direct contact, seemed to have suffered the most, as the wagoner was only connected with the plates by a wooden clog, and others at the bottom of the Seven-yard coal incline only received a shock after it had passed many means of distribution. Two other cases of a similar kind had occurred, one at the Tanfield Moor Colliery, on July 12, 1880, on which a paper was read before the members of the North of England Institute of Mining and Mechanical Engineers, and the other at West Thornley Colliery, on Dec. 11, 1883, with regard to which a paper was also read before the same society.

A vote of thanks having been passed to Mr. Knowles for the interesting contribution contained in his paper,

The Chairman said he had investigated the matter referred to by Mr. Knowles, and it had occurred to him that the flash had gone down both shafts, although it was only upon the chimney of the upcast that there were the marks of the electric current.

Mr. Burrows briefly described a similar incident that had occurred at one of their collieries, and which produced the impression that the pit had "fired."

The Chairman remarked that the descent of an electric current had been given as one explanation of the Risca explosion, which occurred when a violent thunderstorm was going on. In fact, some persons in the district held a very strong opinion that the explosion had been caused by a flash of lightning going down the pit.

UNDERGROUND HAULAGE AT COLLIERIES.

Mr. G. H. Peace next read a paper descriptive of the system of underground haulage which has been adopted at the collieries owned by the Astley and Tyldesley Coal and Salt Company. The subject of underground haulage was he said one of increasing importance, particularly in the Lancashire coal field, where the greater depth of the mines led to larger areas being worked from each shaft, and the economical transport of the coal from the working places had become a matter of paramount necessity, and the object of that paper was more to direct attention to the general question than to lay special stress on the modifications and adaptations of the systems described. At the older and shallower pits of the company the various systems of haulage comprised self-acting planes, single downbrow ropes, main and tail and endless ropes, the engines in each case being placed underground, and supplied with steam through pipes in the upcast shafts. In some cases horses were entirely dispensed with, and in others were used for hauling the coal from the workings along the levels to the main downbrow ropes. At the deeper pits the objection to taking steam down from the surface was increased, and in the case of the Gin Pit, owing to its distance from any upcast shaft, it was not practicable, nor was it possible to fix the boilers underground. The other alternatives were then very fully considered, and whilst admitting the convenience in working of compressed air, the much smaller first cost and economy in the working of engines placed on the surface led to the adoption of the latter system with the use of endless ropes at both the Gin Pit and Nook Pits. Mr. Peace then described in detail the haulage arrangements adopted by the company. At the Gin Pit the hauling engines consisted of a pair of horizontal high pressure engines, with cylinders 10 in. diameter and 2 ft. stroke, geared 3½ to 1, and working at about 140 revolutions per minute, with a boiler pressure of 70 lbs. On the second motion shaft were placed two driving pulleys, each 6 ft. diameter, with a clutch to enable either of them to be put out of gear. Each pulley had four grooves, and to obtain the requisite adhesion the rope was passed 3½ times over the driving pulley, and a guide pulley with three grooves was fixed in front of it. By this mode of driving the friction on the ropes was reduced to a minimum. The ropes were then passed round pulleys 6 ft. in diameter fixed in the head gear, and down the shaft in wood pipes. Upon reaching the respective mines pulleys were fixed in the shaft, and the rope was taken along the centre of the main way round a pulley 4 ft. diameter, fixed on a tram with a tightening screw at the extreme end of the plane, and it returned along the side of the road on pulleys and wood rollers. In each mine the system adopted was to run the tubs in sets of from 30 to 40, the rope being carried on the top of the tubs, and attached at each end of the tram by ⅜ in. chains about 7 ft. 6 in. long, which were wrapped two or three times round the rope and back hooked. The distance to the station ranged from 700 to 1300 yards, and the time ordinarily occupied in the journey from the shaft, changing at the end and returning, was from 10 to 15 minutes. The coal was all brought to the main rope either by gravitation or by hand from the working places. One of the principal items of expense in all underground haulage was the cost of ropes, and they attached great importance to the quality of the material and mode of construction. The standard size adopted for the hauling-ropes was ⅝ in. diameter, and they were made with six strands of the best plough steel. The average quantity of coal hauled per day was 260 tons, but at least 400 tons could be hauled per day, and he estimated the cost of labour at 12s. 4d. per day, and of materials at about 1·321d. per ton. At the Nook Pit they utilised a pair of engines for hauling which were also used as capstan engines, with cylinders 12. in. diameter and 2 ft. stroke, geared 4 to 1, and working at a boiler pressure of 45 lbs. At these pits, instead of each rope being brought to the surface, only the main driving rope worked in the shaft, and from it were worked the branch ropes into each mine by means of grooved pulleys. In this pit they had been at some disadvantage in having to adapt the existing roads for rope haulage, as they were not originally laid out for that purpose. In one mine the rope was carried round curves at both ends of the slant by deep flanged pulleys, 4 ft. 6 in. diameter, and at basis bends by small pulleys, also with deep flanges. The road was also undulating, which necessitated the use of lashing chains at both ends of the trains, which consisted of about five tubs each, at short intervals. For an average quantity of 440 tons he estimated the cost of haulage at about 35s. per day for wages, and about 1·749d. per ton in materials for leading the coal an average distance of 1400 yards

In the discussion which followed the Chairman observed that the fencing-in of the jig-wheels in connection with underground haulage, which had been a matter of considerable difficulty, had now been settled in North Lancashire, where the fencing-in of the wheels was regarded as an advantage.

Mr. John Knowles, in reply to a question, said that at their collieries they preferred to have good roads and short lengths.

Mr. Burrows said that at their pits they had given up the endless chain for the rope, and the same engines were doing more work with the rope. They used up their old winding ropes for haulage purposes. The weight of a rope was a great item in the work an engine had to do, and they adopted the plan of moving small sets of tubs at a slow speed.

Mr. Ridyard said the Bridgewater trustees were laying down an extensive haulage plant at their collieries.

Mr. Tonge was very greatly in favour of the endless-rope system, and he much preferred the rope to the chain. He also much preferred wire rope to horse haulage almost under any circumstances. In some cases it was almost impossible to employ horse haulage, and that was one reason which had induced them at their collieries to introduce the endless-rope system. They had worked with one rope for four years, and they had been so satisfied with the system that they had adopted it elsewhere.

Mr. Winstanley asked whether it had been found that ropes working over a grooved pulley wore out very fast? At their collieries the used the ordinary C pulley, and the ropes wore very well indeed. In some cases it had been found cheaper to drive the haulage from the bottom than from the top.

Mr. Grimble remarked that compressed air could be introduced with very good results. They had adopted it and it had given great satisfaction.

The Chairman said he had made experiments, and he had found a great loss of power with compressed-air engines. There was, however, no doubt that in other respects compressed air possessed many important advantages over steam for use in a colliery.

Mr. Cockson was convinced that for cheapness and economy endless ropes were very much the best.

Mr. Peace, in replying upon the discussion, said that with regard to grooved and C pulleys, his experience of the latter was not favourable. He had had no particular experience with compressed air; but the enquiries they made had induced them to discard the idea of adopting it, and to place the engine on the surface.

Institution of Civil Engineers.—At the meeting on Tuesday (Sir J. W. Bazalgette, C.B., President, in the chair), it was announced that the Council had recently transferred Edward Brailsford Bright, William Evill, and Thomas Matthews to the class of Members; and had admitted Llewelyn Birchall Atkinson, Joseph Percy Clark, Charles James Croft, John Dunn Ferguson, Matthew Garbutt, Alfred Holden, Nicholas Paul Jasper, David John Lavelle, Edward Howis Marston, Henry Martyn Phillipps, John Platt, Bertram Adams Raves, Charles Liddell Simpson, William Stringfellow, and Albert Westlake as Students. At the monthly ballot, James Young Davidson, Ex. Engr., P.W.D., India: William Davies, Wrexham; Percy Carlyle Gilchrist, Westminster; William Knox Laurence, G.W.R., Paddington; Edward Pritchard, Birmingham; John Henry Ryan., B.A., Dublin; Coleman Sellers, Philadelphia; Beauchamp Tower, Westminster; and John West, Manchester, were elected Members: and Alfred Dyke Acland, Stud. Inst. C.E., Metropolitan District Railway; Percy Baylis, Stud. Inst. C.E., Croydon; William Brereton Bestic, Stud. Inst. C.E., P.W.D., India; John Hope Callcott, Singapore; Ernest Collins, New River Company; Eben Connal, P.W.D., N.Z.; Henry Streatfeild Cotton, Stud. Inst. C.E., Pimlico; Adolpho José Del Vecchio, Rio de Janeiro; Edward Dukinfield Jones, Liverpool; Allan Ferguson Joseph, Cairo; Albertus Philippus Kapteyn, King's Cross; Andrés Llobet, Hanover-square; Arthur Charles McMinn, Gas Light and Coke Company; Martin Mildred, Stud. Inst. C.E., Sheffield; Philip Henry Palmer, Brighton; Henry Richard Clarke Pauling, Cape Govt. Railways; Frederick Carrington Phillips, Westminster; David Alan Stevenson, B.Sc., Edinburgh; Charles Jerome Tisdall, B.A., Hull and Barnsley Railway; and Alexander Wilson, M.E., Forest Gate, Associate Members.

Canadian Phosphates.—In the report of the Minister of Agriculture for the Dominion of Canada for 1883, prominence has been given to the report furnished by Mr. John Dyke, Canadian Government agent in Liverpool. Mr. Dyke deals with the range of subjects coming under his cognisance, and makes a speciality of the large and increasing trade in Canadian cattle. He also enters at some length into the question of emigration, mentioning the efforts he has made to promote the movement, not only from the United Kingdom, but the Continent, and which were highly successful. Allusion is likewise made to the production of phosphates becoming of permanent interest in the Ottawa Valley, and Mr. Dyke has endeavoured, where possible, not only in England, but on the Continent, to attract the attention of the users of this fertiliser to the superior quality of the Canadian phosphates.

The Assam Railways and Trading Company directors have received a telegram from their engineer informing them that the Government of India have sanctioned the opening for passenger and general traffic of the main line from Makum Junction to Doom-Dooma, and of the branch line from Makum Junction to Margherita, thus completing the system of railways with the exception of the section of eight miles from Doom-Dooma to Talup, now in course of completion.

CLOSING OF THE LISTS.

THE TARRANGOWER AUSTRALIAN GOLD MINING COMPANY (LIMITED).

Notice is hereby given, that the LISTS OF APPLICATIONS for shares in the above company will CLOSE on WEDNESDAY next, the 14th instant, for both TOWN and COUNTRY.

By Order.

37, Walbrook, E.C., May 8, 1884.

THE

Tarrangower Australian Gold Mining

COMPANY (LIMITED).

MALDON, VICTORIA, AUSTRALIA.

Incorporated under the Companies Acts 1862 to 1883, whereby the liability of the Shareholders is limited to the amount of their Shares.

CAPITAL £120,000, IN 120,000 SHARES OF £1 EACH.

First Issue 70,000 Shares, of which 20,000 fully-paid have been allotted to the vendor in part payment for the property, and the balance of 50,000 is now offered for public subscription. Payable—5s. on application, 5s. on allotment, 5s. on the 1st July; leaving 5s. to be called up as required. The Shares may be paid up in full on application or allotment if desired.

DIRECTORS.

Sir RICHARD MEADE, K.C.S.I., 20, The Boltons, South Kensington, London, S.W.
THOMAS CAMPBELL, Esq., St. Michael's House, Cornhill, E.C.
ALEXANDER DAVIDSON, Esq. (Director of C. Davidson and Sons, Limited, 119, Queen Victoria Street, London, and Aberdeen.
Colonel ROBERT EUSTACE, 28, Clifton Gardens, Folkestone.

And the following gentlemen will become Joint Managing Directors in Australia after the formation of the company:—
JOHN McINTYRE, Esq., M.P., Maldon, Victoria, Australia.
ROBERT DENT OSWALD, Esq., J.P., Maldon, Victoria, Australia.

BANKERS—THE UNION BANK OF SCOTLAND (LIMITED), 62, Cornhill, London; Glasgow, Edinburgh, and Branches.
SOLICITORS—W. MARTIN FLEGG and SON, 11, Hill's Place, Oxford Street, London, W.
BROKERS—ROGER MORTIMER and CO., 2, Royal Exchange Buildings, London, E.C.
AUDITORS—COOPER BROTHERS and CO., 14, George Street, Mansion House.
SECRETARY AND OFFICES (*pro tem.*)—J. W. JEFFERIES, 37, WALBROOK, LONDON, E.C.

ABRIDGED PROSPECTUS.

This company is formed to purchase and work a valuable gold mine, known as the North British Mine, situated at Maldon, Victoria, Australia, the property of Robert Dent Oswald, Esq., J.P. Maldon is one of the oldest gold-producing districts in the Colony, and is in the very centre of the famous Victoria Gold Fields.

The terms of sale are £25,000 cash and 20,000 fully-paid shares, and the present issue, in addition to paying the purchase-money, will provide ample working capital for the further sinking which the company proposes to undertake.

The mine is held under lease from the Crown. The lease has about 14 years to run, and such leases are invariably renewed. The area consists of 16 acres 2 roods and 33 perches (a large holding for a quartz mining lease), covering along the line of reef 580 yards. The main shaft is sunk to a depth of 600 ft. It is 10 ft. by 5 ft. in size, and securely timbered throughout.

The property is submitted to the British public on behalf of the vendor by John McIntyre, Esq., Member of the Legislative Assembly for the Maldon district in the Victorian Parliament, a well-known colonist of high reputation and great gold mining experience, and the directors, having fully satisfied themselves of his unquestionable ability, experience, and integrity, are happy to say that this gentleman has consented to undertake the duties of managing director in Victoria, jointly with Mr. Oswald, for a nominal remuneration, until the company is paying regular dividends.

In order to give some idea of the probable wealth of this mine, it may be stated that it has already yielded over £200,000, and that recently a small tribute party working a portion of it realised in 2½ years (on an expenditure of £1275) the sum of £41,000, out of which they paid £10,000 to Mr. Oswald and £15,000 in dividends to themselves. And this result, obtained from the present lowest workings, is the strongest indication, as explained above, of still richer returns at lower depths. The same tribute party desired an extension of their agreement for the purpose of sinking the main shaft and continuing their operations below the level which they had worked, but Mr. Oswald refused to prolong the tribute, having determined to form a public company in which he himself would hold a large interest.

Hitherto the gold fields of Victoria have been almost neglected by the British capitalist, and the directors would therefore draw especial attention to the tables to be seen at the company's offices, which show the remarkable fact that 21 Victorian mines in operation, many of them in the districts immediately adjoining Maldon, have paid dividends amounting to about £6,000,000 on a capital of less than £1,000,000.

It should be particularly noticed that this mine is in active work, and has already, as shown above, given large profits; that it is well supplied with machinery, buildings, dams, and all mining plant, and is in the centre of the rich gold fields of Australia, which facts are of the utmost importance, because the heavy expense in time and money usually incurred to "prove" a mine is in this case entirely saved.

Prospectuses can be obtained on application from this company's offices, and also from the bankers and brokers, and with them extracts from the Melbourne Argus, Australasian, and Report of the Government Inspector of Mines, leading papers of Victoria, which strongly vouch for the sterling character of this enterprise.

The vendor has agreed to pay all expenses connected with the formation of the company, so that the company will start with its capital intact.

Applications for shares will be received by the company's bankers and brokers.

And in the event of any applicant not receiving an allotment the sum paid by him will be returned without deduction.

Meetings of Public Companies.

RIO TINTO COMPANY.

The eleventh ordinary general meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Tuesday,

Mr. H. M. MATHESON, the Chairman of the company, presiding.

Mr. R. J. FENNESSY (the secretary) read the notice convening the meeting and the minutes of the preceding meeting, which were confirmed. The report and accounts were taken as read.

The CHAIRMAN said: We are glad to be able to meet you to day with the results of the years's working, which cannot be considered unsatisfactory. You are aware that the price of copper underwent a considerable reduction during the year, and in point of fact we realised for our manufactured copper 5*l.* 15s. 5d. per ton less than in the previous year, and for the pyrites shipped 3s. 4d. per ton less, owing to the same cause, the sulphur price remaining the same. These together would have made a difference of 120,000*l.* in the company's revenue; but this deficiency has been almost entirely made good by the increased production of copper at Rio Tinto, and we find ourselves consequently in a position to recommend the same dividend as last year. The figures are, from profits on sales of ore and of copper made at the mines, rents, exchange, &c., including the balance brought forward from the previous year, 752,039*l.* 10s. 9d., against for last year 738,308*l.* 1s. 7d. After deducting interest and amortization of bonds, Government taxes in the different countries, and expenses of administration, there remains a sum of 459,677*l.* 15s. 6d. available for dividend. The directors have continued the work necessary to develope the mines, and we have thought it well to give you in the report the result of the explorations in the South and San Dionisio lodes. These two lodes are connected together without a break, and you will have observed that on one floor there is a continuous adit in mineral of 2400 metres in length, without reaching the termination of the lode; a second gallery, that on the tunnel level, being also driven to nearly the same distance. As the result of diamond boring, which has now reached a depth of 128 metres, ore 416 feet below the level of the tunnel, we have been able to revise the estimate which we had previously formed of the contents of this large united southern deposit, and cannot put them at less than 100,000,000 tons of pyrites. Indeed this is very considerably below the mark. At the time when we entered the south lode from the eastern end by the great tunnel we adopted, under the advice of the late Mr. Forbes, the lowest level that it was possible to drain in that direction. It has not, however, been ascertained that we can enter and drain the mine from another quarter at the depth of 100 metres in mineral below the tunnel level, and can thus make available, whenever the requirements of the company's trade shall render it desirable to do so, the largely extended resources now ascertained of this part of the company's property. When we purchased the mines from the Spanish Government they gave us, in the documents for the "Subasta," or sale by tender, to believe that the mine contained 200,000,000 tons of pyrites; in stating that opinion the estimate they gave of the depth of the ore was 70 metres. According to what I have just stated of the borings made below the tunnel level the depth we have ascertained to exist is more than double what the Spanish Government estimated in forming their view that the mine contained 200,000,000 tons. (Applause.) We have not yet progressed far enough in the development of the north lode to give similar particulars with regard to it; but so far as they have gone the explorations have proved the great extent of the deposit, and the external formation shows it to be larger than the united southern lodes. In portions of this lode the mineral is exceptionally rich in copper. The tunnel from the south lode to pierce the intermediate hill, and open communication with the north lode, at a level considerably below that of the present entrances, has advanced to 7·30 metres, and may be expected to be completed at latest by the beginning of next year. You have already been informed that the tripartite agreement between this company, the Tharsis Company, and Messrs. Mason and Barry (Limited), expires at the close of this year, and is not to be renewed. We could not foresee what the precise effect of this change might be, particularly in view of the severe pressure which had been put upon us by the chemical trade to reduce the price of sulphur, even for the contracts at present running. You are aware that we declined to adopt that course, and the increased deliveries of our ore to the consumers must be held to have justified our decision. It was, however, incumbent upon us, in the interest of our shareholders, to be prepared as far as possible for all eventualities, and to have the mine made ready for a larger output, so that on the one hand we might be entirely independent of the export trade, and be in the position to obtain as good results for the company from the production of copper alone; and on the other hand, be able to provide for a large export, should the circumstances of the market show that course to be profitable. In other words we made up our minds not to export our sulphur at a loss, and as the chemical trade spoke of such low prices as to be unremunerative to us, we laid our plans for using the ore for the production of copper alone. But when the time came for renewing contracts last autumn, and the trade showed a disposition to buy at a small reduction in price, we thought it well to take advantage of it, and effected large sales for deliveries to begin in January, 1885, at prices which I am glad to say will be profitable to the company. At the same time the closest attention continues to be given to the manufacture of copper on the spot, and we do not hesitate to say that from the quality of the ore, and the large quantities we shall be able to lay down, the production of copper at Rio Tinto will soon reach 20,000 tons. It was in these circumstances that we undertook most of the works at the mines, the cost of which has gradually swelled the floating debt. Numerous additions had to be made to the workmen's dwelling-houses, as we now employ 12,000 men. New reservoirs and tanks had to be constructed, and more must still be added, as well as some new locomotives and wagons for the transport of the additional quantities of mineral that have to be moved. But we have not the slightest hesitation in saying that these necessary outlays have been, and will be, well spent for the advantage of the shareholders. This brings me to the announcement of the report that we propose to issue second mortgage bonds for 1,200,000*l.*, in order to pay off the floating debt, and to provide for the necessary outlays to which I have been referring, besides ordinary working capital. This sum is not a large one compared with the whole capital of the company. As is will supersede the charge for interest and discount, set down in the present accounts at 42,943*l.*, it will add to the charges of the company less than 30,000*l.* per annum, including amortisation, while you may take it as certain it will be productive of a larger amount as revenue for the shareholders. Reference has been made to the decline in the price of copper, but you may remember that I took the opportunity last year, in replying to a question on that subject, to say that we did not think we could have any competitors in regard to the cost at which we can turn out copper. If this is so you will doubtless agree with us in the policy of our extending the production of that metal, irrespective of the ruling price, in order that we may get the best possible returns for your immense property. We have referred to the accumulated reserve of copper in the waste heaps at Rio Tinto, which we have estimated to be worth 1,500,000 sterling. I wish to say that in arriving at that figure the copper has been taken at only 50*l.* per ton. I ought to refer in a single sentence to a resolution of the board to take steps for refining the company's copper in England, in order to secure a wider and a less capricious market for our produce than we at present possess. Details are not yet sufficiently matured to be communicated to you on the present occasion. I shall only add that a business visit was recently paid to the mines by two members of the board—Mr. Deetsch and myself—and that we were able on the spot to give effect to the views of the board, and to lay down instructions for the direction of the business to more purpose than can readily be done by correspondence. Before putting the resolution to adopt the report. I shall be most ready to give any explanations or to answer any question which may be put, in so far as my doing so is consistent with the company's interests.

The Chairman concluded by moving the adoption of the report and accounts.

The Hon. T. C. BRUCE, M.P., seconded the motion.

Mr. BRACKSTONE BAKER: Will the question of the issue of second mortgage bonds form a separate resolution?——The CHAIRMAN: Yes.

Mr. BAKER asked whether it was not necessary to hold a special meeting for the creation of mortgage bonds, inasmuch as those bonds would take precedence of the ordinary stock, and, to an extent, would probably deteriorate the value of the ordinary shares?

Mr. DUNDAS wished to know whether it would not be possible to turn the 1,500,000 pounds' worth of waste heaps into capital, thus precluding the necessity for an issue of bonds.

The CHAIRMAN: It is in ore still. We can only return it by degrees.

Mr. ROBERT HENDERSON said that in 1881 the floating debt amounted to a million sterling, and bonds were issued to cover that debt, which it was stated at the time would be extinguished. Then there was an issue of 100,000 shares, which brought in 2,400,000*l.* for a purpose of paying off 1,700,000*l.* Spanish coupon bonds—which were running at 5 per cent., whereas the money was raised at 6¼ per cent.—and yet here was a floating debt of 600,000*l.* or 700,000*l.*, so that notwithstanding the enormous productiveness of these mines it seemed probable that the ordinary shareholders would receive a decreasing rather than an increasing dividend. He contended that the shares should have been issued *pro rata* to the shareholders, as should also the bonds which were now proposed to be issued. He objected to the grant of 5000*l.* for the expenses of the company at the Madrid Exhibition as excessive, and referred to the increase which had taken place.

The CHAIRMAN, in reply to these and other questions, said Mr. Baker's question was whether I could tell the price and mode of issue of the bonds. That is not yet quite determined. We first resolved to come to this meeting to ask leave to issue them, and then we mean to take our steps to complete the business. We have absolutely not yet determined the price at which the issue shall be made, and I do not think I need say more about that. (Hear, hear.) But in regard to the necessity for a second meeting, or for an extraordinary general meeting, we, of course, took advice about that, we are perfectly clear that we are following our articles in saying that the resolution of a general meeting is quite sufficient for the purpose. (Hear, hear.) Mr. Dundas was very anxious to bring to market the 1,500,000 pounds' worth of copper, which lies in the waste heaps. He is not more anxious than I am, but that only comes out by degrees. The production of copper on the spot is effected by various processes. As the production is made year by year waste heaps are formed of what remains, but that copper which remains in the waste heaps only comes out year by year. It is, however, a valuable asset, not only because it eventually comes out for this company, but because it cheapens year by year the production of the copper that is formed from the newly-extracted mineral. This copper, which we have estimated at that value, stands in the books at 6*l.* 7s. 6d. per ton, and all that has to be spent upon it now to make it copper is the cost of cementing it—a very moderate cost, say, 12*l.* to 15*l.* a ton, so that that copper is cheap copper. (Cheers.)

Mr. DUNDAS: I am quite satisfied, Mr. Chairman.

The CHAIRMAN: With regard to the increase of the floating debt we felt as directors of so large a company, and having so great a future, as you must admit it has from the immense quantity of mineral yet available for us, that it was our duty to exploit the mine and to lay it out for producing larger quantities, provided we could do it at a profit to the shareholders. (Cheers.) It was quite essential, therefore, that we should erect suitable plant on the spot and extend our railways throughout the property, and in every way to adopt means for increasing the yearly output. We did not think it was right for us to continue this year at the output of three years ago. Had we done so we should have had a very short dividend indeed for the shareholders. I have already said in my address that it made a difference of 120,000*l.* in this one year, and had we not increased the quantity of copper which we made from 9000 tons up to 12,000 tons we should have had that much less sum to divide amongst the shareholders, making a difference of about 4 per cent. in the dividend—we would have had 10 per cent. instead of 14 per cent. Therefore, we feel that we have done right in laying out the money, as we think, judiciously (I have not the slightest doubt of it) for developing the future of your mine, so as to increase the output, and make us independent of the changes, not only in the chemical trade, but in the value of the copper, that may arise in the market. (Cheers.) I have said before, and I repeat it, that there is not a company in the world, so far as we have information, that can produce copper as cheaply as the Rio Tinto Company. (Hear, hear.) With regard to the outlay upon the Exhibition, when we determined upon forming an exhibit, at the request of the Spanish Government—whom it is very desirable for us to conciliate in every innocent way—the price of copper was 70*l.* a ton, and we did not feel that we were precluded from taking our place, and I may say to the shareholders that it is the foremost place amongst all the mining industries in Spain, and that we carried off what is called the diploma of honour from that Exhibition. Is it nothing that we have thereby secured the cordial co-operation and goodwill of all the leading men in Spain? (Cheers.) We have made careful calculations as to what the effect has been on the shares of the company by the issue of the 100,000 new shares to which Mr. Henderson has referred, and we find that but for this the dividend on the original shares would have been 13 per cent. for 1882 instead of 14 per cent., and 12 per cent. for 1883 instead of 14 per cent. These are careful calculations, that are not made rashly; but the effect has been exceedingly favourable to the shareholders. Instead of being any "watering" of the shares it has been the very reverse. Mr. Henderson may shake his head, but it is so.

Mr. HENDERSON: I cannot take it as advisable to take up bonds at 5 per cent. with money which costs us 6¼ per cent.

The CHAIRMAN: You forget that we made a large profit for the company on the issue of the shares. There was a profit of 1,364,550*l.* for the company by the sale of those shares.

Mr. HENDERSON: Then you must take the interest at 14 per cent. If you create that profit you must take the money as costing 14 per cent.—that is the dividend paid upon it.

The CHAIRMAN: Let me say that on the bonds cancelled by that movement there was an amortization of 3 per cent.; therefore, instead of 6¼ being compared with 5 per cent. it must be compared with 8 per cent. (Cheers.) A gentleman has asked what estimate we can make of the copper contents of the 200,000,0 0 tons of copper. As near as we can estimate from the quality of the copper that is being extracted, and from the quality of the copper which the diamond boring machine has brought up in its whole course downward, it cannot be taken to be less than 2½ to 3 per cent. of copper in the entire quantity as an average, that is 6,000,000 tons of copper. (Cheers.) We shall not get it all out in this generation- (laughter)—but it will come out gradually, and, therefore, it belongs to the company. The Chairman added that the profit of 1,364,554*l.* made on the last issue of shares was made without the payment of a single penny for commission to any person whatever. (Cheers.) The amount of bonds now proposed to be issued would, it was believed, cover the floating debt, and leave an amount in hand sufficient for all the extra works required.

The motion for the adoption of the report and accounts was then put and carried, Mr. HENDERSON dissenting on the ground that the shareholders should have a priority of distribution of the new bonds.

The CHAIRMAN then moved:—"That a final dividend of 16s. per share, making with the interim dividend paid in November last, 28s. per share, or 14 per cent. for the year 1883, be now declared payable on May 24, free of income tax."——Mr. JOHN MACDONALD seconded the motion, which was agreed to.

The CHAIRMAN moved:—"That the board be and they are hereby authorised to issue second mortgage debentures for a total sum not exceeding 1,200,000*l.* over and above the 2,500,000*l.* for which debentures may be issued under Article 38 of the Articles of Association, and the resolution of the general meeting held on April 23, 1880."——Mr. G. A. SCHROEDER seconded the motion, which was carried with one dissentient—Mr. Henderson.

The CHAIRMAN moved the re-election of the retiring directors, Sir Alexander Matheson, Bart., M.P., and Mr. John M. Macdonald.——Mr. HENRY DOETSCH seconded the motion, which was carried.

On the motion of Dr. MACLAREN, seconded by Mr. BAKER, the auditors, Messrs. Turquand, Youngs, and Co., were re-elected.

Mr. G. T. POWELL moved a cordial vote of thanks to the Chairman.——Mr. BAKER seconded the motion, which was carried by acclamation.

The meeting then closed.

NEW EMMA SILVER MINING COMPANY.

The ordinary general meeting of shareholders was held at the City Terminus Hotel, Cannon-street, on Wednesday,

Mr. FREDERICK WILLIAM SNELL in the chair.

Mr. R. L. HOBBS (the secretary) read the notice convening the meeting. The report and accounts were taken as read.

The CHAIRMAN said that before proceeding to the business of the meeting it was only right that he should express on behalf of the board, and no doubt of the shareholders generally, a deep feeling of grief at the terrible calamity which had happened at the mine since the shareholders last met on Dec. 19. On the evening of Friday, March 7, at about 6·30, without any warning whatever, a terrible snow slide occurred, which spent its whole force on the works of the Emma Company. Those works had been considered the safest place in the neighbourhood, and persons from the little town of Alta had gone to the mine to avoid the effects of the snow slide which threatened to occur on that evening. Without a moment's warning, the whole avalanche came down, burying thirteen persons, of whom seven were employed by the company. Having read a description of the disaster from a local paper, and added that fortunately the manager, Mr. Cullins, had left for Alta about 20 minutes before the slide, so that their manager had thus been saved, he desired on behalf of the company to express their deep sympathy with the relatives and friends of those who had met their death by this terrible calamity. Reverting to what took place at the meeting in December, it would be remembered that on the morning of the meeting a cablegram was read in these words:—"Have struck ore; 1 ft. thick; have sent favourable report 10th." He did not like these cablegrams coming just before meetings; but at the meeting he read the correspondence between Mr. Cullins and the board, and, he thought, showed conclusively that the telegram was a genuine one. He (the Chairman) then read extracts from the reports received since the last meeting from Mr. Cullins, which have appeared in the *Mining Journal* from time to time, describing the progress of operations. As to the statement that prior information reached this country than that which came to the directors, Mr. Cullins said he exercised all due precautions, and he was unable to account for the statement. Should he discover that the information came from any workman he would at once dismiss them. With regard to the question of reducing the wages of the labourers to a less extravagant rate than $3½ a day, Mr. Cullins said it was out of the question to attempt to reduce the wages, which were less than the rate paid by any mine in the district. Indeed they had great difficulty in keeping the men. According to the latest reports prior to the accident the rock was softer, and there was more water, which was a good sign. The cablegram received from the manager on March 10, which was at once sent to the shareholders, was—"Boiler house wrecked, works stopped, snowslide, 12 killed." The board heard that the damage done amounted to $30,000 or 6000*l.*, and they, therefore, cabled on March 12—"Board deplore disaster, cable damage, are boilers destroyed?" No reply was received for some time, but on April 1 Mr. Cullens telegraphed that the boilers were slightly injured, and since then the following letter had been received from the mine:—"Since writing you last week my time has been occupied almost day and night removing the bodies of the victims of the late snowslide to this place for interment, because of all the unfortunates having met their sad and untimely deaths at the New Emma works this duty devolved upon me. As mentioned in my letter of last week our buildings are all a total wreck, with the exception of our coal house, which is full of coal, containing about 350 tons, the assay office is also saved. I have men employed in shovelling the snow and debris and clearing away from around the boilers, but as yet am unable to determine the exact damage done to them, but do not think it very serious; it is possible, however, they may have to be reset and all the fittings replaced. From the best estimate I can make at present our total loss will not exceed from $8000 to $10,000, possibly below $8000. Soon as I can get snow shovelled away from around boilers will be able to give you the exact amount of loss. Nothing can be done towards repairing damages before late in May, as it will be impossible to get material up the canyon before that time. The mine is filled with water, but can be pumped out in a few days after boilers are repaired and connections made, as the pumps are all in good condition. Pumps can be started in from 30 to 40 days after repairing is commenced. The shaft is down 100 ft. below first level, and station nearly completed, and had the accident not have occurred we would have had the large pump in place and commenced cross-cutting by 20th inst. The last 25 ft. in shaft showed a decided improvement in appearances, the rock getting much softer and intermixed with low grade ore, and is undoubtedly below the zone of hard crystallised lime which we have had the entire distance from the bottom of the old ore body, and I feel quite confident we would have had a self-sustaining mine within three months." The health of Mr. Cullins had suffered, and he sent in his wish to resign, but the board, anxious to retain the services of Mr. Cullins, had suggested to him that he should nominate some good foreman in whom he had confidence to superintend the works of the mine, and that he should take a holiday for a month or two. Mr. Cullins, while thanking the board for their offer, said he could not avail himself of it, owing to the serious accident. He intends to remain at the mine at all events until future operations were decided upon and the mine again placed in full working order, and he reported a marked improvement in his health. It would be very difficult to replace Mr. Cullins, who thoroughly knew the whole of the country, and was very careful in all his estimates, which were under rather than over the mark. In conclusion, the Chairman said the question of future operations had better be discussed separately, and then moved the adoption of the report and accounts.——Mr. CHARLES W. C. HUTTON seconded the motion.

Dr. CHANDLER asked how many years the Emma Mine had been before the public?——The CHAIRMAN: Thirteen years—since 1871.

Dr. CHANDLER said he had been a shareholder all the time, and they had always been expecting and never realising.

The CHAIRMAN said that although the first company came out in 1871 the works were stopped in 1873. The present working of the mine had been in operation only for about three years.

Mr. HUTTON: The New Emma Mine is in quite a different part of the mountain to the old mine.

Dr. CHANDLER suggested that they should get rid of the property at the earliest time and on the best terms possible. ("No, no.")

Mr. BLADON asked what was the present financial position of the company?

The CHAIRMAN said that the balance now in hand was 1240*l.*, with the whole of the liabilities in Utah and in this country cleared up to the end of February. The March accounts could not be much, for the accident happened after six days' working in that month.

The CHAIRMAN, in reply to a SHAREHOLDER, said the directors had voluntarily agreed to leave their fees in abeyance. The London office expenses seemed heavy; but it must be remembered that there were between 1500 and 1600 shareholders and that a large amount of work was involved. Out of the 1851*l.* received for concentrated ore sold the company only got about 700*l.*, the balance went to the tributers.

The report and accounts were then unanimously adopted.

The CHAIRMAN moved the re-election of the retiring directors—Mr. Romanes and Dr. Dunhill.——Mr. POWELL seconded the motion, which was carried.

Messrs. Andrews and Mason were re-appointed auditors.

The CHAIRMAN asked whether the shareholders generally endorsed the opinion expressed by Dr. Chandler that they should give up the property. (Cries of "No.") The company was not only in possession of the Emma Mine, for which 1,000,000*l.* was paid, but also of the Cincinnati property, for which no money but a considerable number of shares were given. Since the purchase of the latter property little or no prospecting work had been carried on in that property. The latest reports seemed to show that they had got below the hard limestone in the shaft into softer ground, from which there was every prospect of something being discovered. The question was whether they should raise another 15,000*l.* for carrying on the mine and testing it properly. Mr. Gager, who knew the property well, said he had no doubt that but for the accident they would have paid expenses in three or four months, and would soon pay a dividend. It was to be remembered that the ore was exceedingly rich, having gone to as much as 940 ozs. of gold to the ton, so that a small amount of such ore would soon pay a dividend. The question was one entirely for the shareholders, and the board would act in the matter as individual shareholders. For his own part he confidently believed that a discovery would be made in the mine. The mine was in a better position now than when the shares stood at 3*l.* or 4*l.*, for a larger amount of development had been done, the shaft had been sunk at great cost, and 4800*l.* had been spent on new machinery. A small expenditure—Mr. Gager thought about 2000*l.* or 3000*l.*—would probably be sufficient to do all that was required, but the board proposed to ask for power to raise a larger sum in case the amount named should not be sufficient.

The CHAIRMAN then invited suggestions as to how the money should be raised.

Mr. F. BLADON suggested that 40,000*l.* should be raised on debentures, payable at the close of 1886, with 10 per cent. interest, and issued at 75 per cent. These would realise 30,000*l.*, and putting aside 10*l.* per cent. for interest they would have 20,000*l.* to work with. If the mine was worth anything at all it would soon return that amount.

Mr. HUTTON having expressed his undiminished confidence in the mine, said the board, after much consideration, recommended that 15,000*l.* should be raised by the issue of preference shares of 10*l.* each, having a cumulative preferential dividend of 20 per cent.

Mr. PROBERT suggested that 20,000*l.* should be asked for in 6 per cent. mortgage debentures, running for five years, and issued at 75 per cent., redeemable by annual drawings, or by giving three months' notice. This would give them the 15,000*l.* required on satisfactory terms

The CHAIRMAN, after some discussion on the suggestions made, said Prof. Vincent, who knew the district well, was present, and probably the shareholders would be glad to hear his view of the matter. (Hear, hear.)

Prof. VINCENT said he was not a shareholder in the company, but he had known the district for a good many years, and had carefully studied its geological characteristics. He had also known Mr. Cullins for several years. Mr. Cullins was the veteran miner of the district, and had got thousands of tons of ore out of the Flagstaff Mine, which was 1000 ft. higher up the hill than the Emma Mine. Mr. Cullins was a most able man, and the management could certainly be in no better hands. The fact that in the last 25 ft. sinking the ground had become softer was a very satisfactory feature; as there was no instance on record in the district as far as he knew in which the shaft had penetrated a softening formation for so great a distance without coming upon ore. Of course they could not argue *à priori*, that because such had been the experience hitherto it would certainly be so in this case, but it was very strong presumptive evidence that it would. If the shareholders knew the property as well as he knew it, they would not for a moment think of parting with it. They had the best machinery in Utah, and the development of the mine, under the superintendence of Mr. Cullins was satisfactory. With only a small additional outlay he thought there was every prospect that the shareholders would have a very good return.

Dr. MACGREGOR moved a vote of thanks to Prof. Vincent. (Hear, hear.)

The CHAIRMAN seconded the motion, which was carried.

Mr. BLADON having withdrawn his scheme for the raising of funds by the issue of debentures, the shareholders present decided, with only two dissentients, that the scheme recommended by the board was the best to be adopted, and it was decided that a special meeting should be called to give effect to this decision.

The meeting then closed with the usual compliments to the Chairman and directors.

THE MONTANA COMPANY.

An extraordinary general meeting of shareholders was held at the City Terminus Hotel, on Tuesday,

Mr. N. STORY MASKELYNE, M.P. (the Chairman) presiding.

Mr. JAMES JOHNSTON (the secretary) having read the notice convening the meeting,

The CHAIRMAN said the subject on which they had met was not a new one to the shareholders. At their last meeting, a few weeks ago, he told them how important it was that the Montana Company should secure a piece of territory lying between their lode and their works, not only because their tunnel ran under that ground, that their tramway ran over it, and that in various other ways it was important that they should own the ground that connected the two properties, but also as regards the working of the tunnel, which they had successfully carried through. That tunnel had intersected lodes, one of which was a very large one. One was called the Cruse Lode and the other the Old Standard Lode. Their lode divided into a series of lodes, and if they became possessed of the piece of territory which it was proposed to purchase they would have an extent of valuable lode, which practically brought it up to the Drum-Lummon lode itself. He would not say entirely, because so many of these lodes seemed to converge upon it, and where they converged they were likely to have a very valuable property. These were the grounds on which, he said, he would bring this Old Standard property to their notice, and he believed that the shareholders generally, if not unanimously, were disposed to support the directors in acquiring this property. Before Mr. Attwood left England he was very particular in telling him to do his best to secure the land. One reason was, that they might secure an extension of their lode; and the other was the great importance of not having hostile adventurers on their right or left. The question then arose as to the terms on which they should obtain it. When they considered the terms on which they obtained the Drum-Lummon property, he thought they would consider that they got it at a very low price in paying 30,000*l.* for it. The directors have now to ask the shareholders that the capital should be increased by 60,000*l.*—30,000*l.* would buy the property with the United States patent, and the other 30,000*l.* would be required to work it. What was at present proposed was to apply the old mill, which was erected by Mr. Cruse, and to make up the complement of stamps at their own mills. So far as the money went, they might leave it to the manager to apportion the expenditure on those mills. Mr. Cruse made it a condition that in purchasing the Old Standard Mine they they should not pay the heavy commission to Messrs. Matheson. They had had an interview, and Messrs. Matheson consented to their halving the commision. Mr. Cruse declined this at first, but they did not know whether he would continue to do so. He thought they would allow that the property was not a costly one, and he thought, when they were able to add to their 60 or 70 stamps on the Drum-Lummon lode some 30 or 40 on the Cruse lode, they might depend on this property standing very high in the market. Before moving the resolution, he would give them a brief account of what was going on at Montana Mine. When they met last they would remember they had not touched the Drum-Lummon lode, but, he said, they would do so within a few days, and the prophecy was fulfilled. In a lode of 54 ft. the ores were more dense. As regarded the wealth of the mine, at that distance he could not give them any account, because their object was to make a drift northwards. They had had to work down through the lode to the Maskelyne tunnel. They were now more than half-way down. They would have in the course of a few months 50 stamps working. He looked forward to having some good returns in autumn, and doing justice to this splendid property. He believed the proper way to do their duty was to work the rich with the poorer lode. He had very little doubt the directors would have the support of the shareholders in this proposition. With regard to the 2-stamp mill, when they had their last communication from Montana, it was not working, on account of the wedges not being strong enough, and they had to send to San Francisco for stronger ones, but he had little doubt it was working now, and that they would have very good accounts given next month of the profits of the mine. He did not know he had anything more to tell them of the property they proposed to buy. He might tell them that the 10-stamp mill had to stop three or four days for cleaning, but he had no doubt it was now doing good work. They had done their best as regarded the new stamps that were ordered. Mr. Attwood's idea was to chlorodise the stamps, but he found he could not do that, and he intended to use concentrators. The only thing that now remained was to submit the resolution. He had on the present occasion to ask them to sanction the raising of the capital from 600,000*l.* to 660,000*l.* The mode in which it was proposed to raise the money—it had been considered by the directors, and passed by a majority of the board—was that the new applications for the shares should be by tenders—that was, everybody who at present held shares should send in a tender for any number of the shares he wished to have, and stating the sum he wished to pay for them. Of course there would be certain regulations as to the way in which the tenders would be sent in and so on, but the details were simple enough. The only resolution he had to move that day was the first—that they would increase the capital of the company by 60,000*l.* The directors had passed a resolution that this should be done by tender. He did not know that he had anything more to say, and he had now to move that the capital of the company be increased from 6 0,0 0*l.* to 660,000*l.* by the creation of 30,000 shares of 2*l.* each, which shares should rank or dividend from the day they were issued.——Mr. WILMOT HOLLAND seconded the motion.

The CHAIRMAN, in answer to a question, said the shares would be only offered to the shareholders.

A SHAREHOLDER asked why the shares should not be offered at par?——The CHAIRMAN said there were too answers to that. One was that a short time ago a proposal of that kind was made, and then only a slight premium was put on the shares, and the returns were not of the kind the directors were led to expect. Then there would be an immense amount of gambling in the market which it was not desirable to encourage.

The CHAIRMAN then read Mr. Attwood's report, as follows:—

March 26.—According to your request I beg to submit the following particulars regarding a piece of property lying to the north-west of the Drum Lummon Mine, and adjoining the same, and which was formerly known as the Pine Tree lode, but is now divided into three claims, called the Oak Grove Nos. 1 and 2, and Fraction No. 2, all of which is to be acquired by a company called the Old Standard Company.—Plans: I have prepared two plans, called Nos 1 and 2. Plan No. 1 is a map of the mining ground to be acquired by the Old Standard Company, showing its relative position to the Drum Lummon Mine and works. Plan No. 2 is a profile and plan of the Maskelyne Tunnel, from the mouth to the present end, showing the different rocks met with, and the size, strike, and dip of the mineral veins intersected. In plan No. 1, and in the ground called

"Oak Grove, No. 1," a shaft has been sunk down about 40 ft., and a level driven in a northerly direction 40 odd feet; the lode is more than 10 ft. wide, and the quartz looks remarkably well. The ore resembles the Drum Lummon in all its mineralogical characteristics, and also from its strike and dip it may be assumed to be the same lode. I sampled the north face of the drift over 10 feet across, and the mineral assayed as follows:—Footwall side about 4 ft. thick. Gold, 1·82 ozs.; silver, 273·35 ozs.=gold, $37·67; silver, $345·68; total, $383·33. Hanging-wall side about 6 ft. thick. Gold, 18·23 ozs.; silver, 111·80 ozs.=gold, $376·85; silver, $144·55; total, $521·40. The ores assayed higher than I thought they would, and I, therefore, think that they should not be taken as an average, but the face of the drift is, without doubt, worth $60 per ton. I forward you to-day a portion of each sample assayed. The hanging-wall of the lode has a dip of 67°, and the general strike was found to be between N. 4° E., and N. 12° E. magnetic. Several pits, small holes, and drifts have been started on the lode near the surface, but the work done on them is too superficial to be of any practical value. Oak Grove No. 2 shows a strong vein at the spot marked "discovery." No work has been done on it to prove its value. However, it is one of the lodes cut in the Maskelyne Tunnel (see plan No. 2), and in that place it looks and assays well. The ore is a gold ore, and quite different to the Oak Grove No. 1.—Fraction No. 2: At the point marked "discovery" a strong lode was met with, and a shaft sunk down on it about 14 ft., and a connection made with the Cruse cross-cut tunnel, and a drift of 42 ft. in length was driven on it. The lode was found to be about 5½ ft. wide, and 4½ ft. of which was good pay ore. The following assays were made from the 4½ ft. of pay ore:—Eight samples average $26·33 per ton. The following assays were made from samples in Maskelyne Tunnel:—14 samples, average $25·88 per ton. The above samples were from the two lodes and two small veins or feeders cut in the Maskelyne Tunnel. (See plan No. 2.) The pay rock in the above lodes was found to be about 4½ ft. in width. The lodes cut and proved in the Maskelyne Tunnel will give about 300 ft. of backs on the dip. The enclosing wall rocks are the same as those found near the Drum Lummon lode—clay-slate and granite.

Advisable method to be adopted in working the Old Standard Company's property: The Maskelyne tunnel is constructed for a double track. Arrangements could be made with the Montana Company (Limited) to put in a track to extract the mineral already exposed and cut in the tunnel; also the arrangements could be made for power from the same company's compressor. The surface ore from the Pine Tree shaft (the Oak Grove) could be brought down by the Montana Company's tramway by paying them a royalty. The ores can be conveyed from the mouth of the Maskelyne tunnel and the ore bin at the tramway to the present 10-stamp mill by laying railway iron track on the hillside for 650 ft. in length. It would be advisable to lease or purchase the 10-stamp mill from the Montana Company (Limited), and then to add additional machinery. The present plant, consisting of drying furnace, 10 dry stamps, two pans, one settler, one engine, one boiler, &c., could be employed in working the silver and gold ore extracted from the Oak Grove No. 1. To work the gold ore 20 wet stamps should be put up alongside the present 10 dry ones, and 10 pans and five settlers put in below the same. Mr. Thos. Cruse will sell 20 stamps, two boilers, one engine, one large rock-breaker, which he bought at a mine about four miles from here called Penobscott for about $10,000. The above is second-hand plant, but it will answer the purpose. The 10 pans and settlers will cost about $10,000. The estimatedcost of making the mill into a 30-stamp one will be about $80,000. The 20 wet stamps should crush about 40 tons per day, and the 10 dry ones 11 tons, making 51 tons per diem. The Cruse stamps are not of the improved pattern or as heavy as those being built by the Montana Company. Provided leases and satisfactory arrangements for working the property can be made with the Montana Company (Limited), a working capital of 20,000*l.* will be ample. The cost of milling and mining the gold and silver ore should not exceed $12 per ton. The silver ore costs more per ton to work than the gold, otherwise $10 would cover the cost of working the gold rock. The percentage of gold and silver that can be extracted may be safely estimated at 80 per cent, and it is probable that 90 per cent. will be extracted as it is by the Montana Company (Limited). Title: The title to the property is held by Mr. T. James Cruse, and a United States patent is being obtained. Conclusion: From my brief report I hope you will be able to form an opinion of the great value of the property you are about to acquire. I can strongly recommend the property to you and your friends as one of the very best and safest mining investments that I have ever had the opportunity to examine.—GEO. ATTWOOD.

Mr. FREDERICK CROWTHER proposed an amendment "That it being undesirable to increase the share capital of the company, and there appearing a reasonable prospect of the directors being able to pay for the Pine Tree property in a short period out of revenue, it be remitted to the directors to endeavour to arrange for the purchase of the said Pine Tree property by payments out of revenue, such payments bearing interest at reasonable rates from the date of purchase."——Mr. GEORGE CROWTHER seconded the amendment, which on being put to the vote was lost by a large majority.

The original motion was then put and carried by 39 to 3 votes.

The proceedings then terminated. ——

MAXIM WESTON ELECTRIC COMPANY.

The general meeting of shareholders was held at the Cannon-street Hotel, on May 2,—Mr. HUGH WATT in the chair.

The SOLICITOR of the company read the notice convening the meeting, and the directors' report was submitted.

The CHAIRMAN congratulated the shareholders that the present directors had the pleasure of meeting them for the first time under much happier auspices. He had been chiefly instrumental in securing the co-operation of his colleagues, and inducing them, as large shareholders, to join the board, and thus prevent the company going into liquidation. Messrs. Swaby, Gray, Brown, himself and friends, had further taken about 20,000 shares of the new issue. He did not think it was now saying too much if he asserted that a new and, he hoped, very prosperous era had dawned upon the company, which would serve even more effectually than at present to obliterate from their memories the vicissitudes through which the company had passed. When the new board took office, the company was not only bankrupt in funds, but in reputation. The task was, therefore, a much greater one than the development of a new concern. He would refer shortly to the report, balance-sheet, and profit and loss account. 1. The report had been drawn up in as plain and lucid language as possible, the directors having no occasion to make use of clouds of rhetoric to obscure the true position of the company. Certainly, the company might have done more business during the year under review; but, besides the many distracting matters demanding adjustment, and the removal to new works and offices, the directors were anxious to conserve their comparatively limited resources, and, if at all possible, to show a certain surplus during their first year of office. 2. As he had explained in his preliminary remarks, the profits have been almost entirely earned since September, 1883, so that 12 months' expenses have had to be deducted from little more than six months' operations, the profits being at the rate of 16 per cent. per annum on the available working capital. Again, the expenses have been,as near as possible, reduced by a half, and, as far as they could see, will not have to be increased unless by a large and sudden influx of business. Clause 4 was one which he would fain pass over in silence, seeing the company has now reached a smooth anchorage. The net expenditure for the years 1881 and 1882 was 32,783*l.* 13s. 3d., and there is no room for doubt that the bulk of this money was uselessly thrown away. You were told that it was unnecessary to spend large sums on exhibitions, which he denied, as they had exhibited publicly and privately at a large number of places, but taken care to get their expenses and something more. With regard to the present plant of the company, it is in perfect order, and is nearly all new. Clause 6 might be described as the pivot upon which the ultimate position which this company will secure depends. Let him first refer, then, to their new incandescent lamps of 8 and 16-candle power. Obviously a lamp giving even a minimum of 30-candle power was more than was required in the majority of cases, and a steady lamp equal to a gas jet was the needful. Prof. Weston thus set to work to produce a finer filament, requiring less current, and retaining the property of durability. This he was glad to say he has succeeded in doing, and for the new lamp he can claim to get 11, if not 12, to the 1-horse power; that the current required is only 0·75 to produce 16-candle power, and that the E. M. F. is less than that required by the old lamp—60 volts. High tension lamps have not proved a success. They would understand the immense advantage of their new 16-candle power lamp when he adds that a dynamo which could only run 30 of the old lamp has run 180 of the new, thereby rendering the dynamo of greatly increased value. Their 8-candle power lamp is also a very good one, and they can run it on the same circuit with the 16-candle power. These lamps, like their old one, withstand high currents. Prof. Weston had also sent them a new holder, also a holder and switch combined, which he had just patented, and may, in passing, say that it obviates, by an ingenious method, a great weakness in what has been till now admitted to be the best patented holder. It is impossible that he could enter on the innumerable accessories which Prof. Weston and his large staff of experts have specially designed for their incandescent system, and will have shortly in the printer's hands, a complete catalogue, with illustrations, for circulation. With regard to his new self-regulating dynamo, they had, during the past week, been engaged upon tests of this dynamo, both at the works of Mr. Brotherhood, in the presence of Government officials, and also at their own works. They ran over 200 lamps from this dynamo, and then search lights, varying from 10,000 to 20,000-candle power each, the latter being the most severe test possible, as they had no resistance in the external circuit, so that the dynamo was running at about 1000 revolutions, part of the time out of circuit, without a spark on the commutator, and the field remaining perfectly cool. This machine shows the same excellence of construction, strength, quality of materials, and fineness of finish which has always characterised Weston machines, with greater efficiency and perfect self-regulation, the latter being the leading improvement in this type of machine. For the above reasons, and also owing to my private advices that the American company are now commencing experiments on a larger and more exhaustive scale even than to date, he considers that the patents they now hold and improvements till 1886 are well worth the sum paid for them, and the 10,000*l.* additional, making 70,000*l.*, as per balance-sheet, at which they value all the patents held by the company. Assuredly had they had to purchase the new lamps and dynamos, of which he had given a brief outline, these alone could not have been secured for less than 50,000*l.* During the past year, or rather seven months, their chief attention had been given to the sale of arc installations. The main obstacle to a very large business in this branch has arisen from a large number of unsuccessful installations which have been attempted. With arc, as with incandescent lamps, high-tension systems have been a failure, and it is true that they stand almost alone in having successfully carried out all their installations. As a proof of which most of the work they are now engaged upon are repeat orders. Our Weston arc system remains the most economical and reliable in the market. The new self-regulating dynamo is equally applicable to arc lighting, and as improvements since made will be adaptable to this dynamo at small cost, he agreed with experts who have examined it that it is the dynamo of the future, and superior at present to anything in the market. He had just received specifications for a new motor generator, which he had not yet patented, as this branch is one to which special attention is about to be given in the experiments which are to extend all through the summer, and some of which he hoped to witness. He saw no reason why this company should not be in a position to pay a dividend for the ensuing year. They have now recovered their lost reputation; and as to surplus, they occupy already a position unique among the companies engaged in this industry. They had developed their business at a number of leading centres, and those to whom electric light would mean a considerable economy, finding that they carried through their work satisfactorily, and that the light gives them no trouble afterwards, are putting forward enquiries for estimates which, they had reason to believe, will result in large orders. He thought there was only one subject left for him to refer to, and that was the Lancashire Company. Differing with the board of that company as to the advisability of largely extending their rental business until all the calls upon shares allotted had been paid, he was compelled to leave the board of that company, and in about six months' time he found his prognostications had come true, and that the company could not pay their debts. Overtures were then made for the re-absorption of that company, but the present company did not see their way, so that the company went into voluntary liquidation as a safeguard. He was happy to say, however, that affairs had so far advanced that within a very short time the company will, he expected, be taken over by them. By this means they will secure a going business of high repute, and regain command of districts most important, and where their lights have virtually swept away all opposition. Before sitting down, allow me thus publicly to tender my sincere thanks to all those of your number who have given me, in one way or another, assistance in the difficult task of reinstating this company, especially to Mr. Gray. The same applies, in more or less degree, to each of my colleagues, to whom your thanks are due for having stepped into the breach when the company had comparatively nothing left but its patents, and but for whom the history of this company, when written, would have ranked amongst the most disastrous of joint-stock limited companies.

The report and accounts were then unanimously passed, and the proceedings terminated with the usual complimentary votes.

NATIONAL PROVINCIAL BANK OF ENGLAND.

The annual general meeting of the proprietors was held at the head office, Bishopsgate-street, on Thursday,

Mr. RICHARD BLANEY WADE in the chair.

Mr. THOMAS GEORGE ROBINSON (one of the joint general managers) read the notice convening the meeting. The report and accounts were taken as read.

The CHAIRMAN said: It is always a matter of satisfaction to us when this period of the year comes round, and we are able to meet you and give an account of our proceedings since the last time we assembled in this room; and, of course, it is doubly agreeable for us to do so when we are able to present a report to you, which I think I may say, must be gratifying to all who are concerned in the prosperity and progress of the National Provincial Bank of England. (Cheers.) You will already have observed, I dare say, in the report which you hold in your hands, that we propose in the month of July to pay a bonus of 7 per cent. upon the total paid up capital of the bank. That amount will, of course, be accompanied by the usual half-yearly dividend of 4 per cent., making an amount of 11 per cent. to be paid early in July. We have also placed 15,000*l.* out of the profits of the year to the credit of our reserve fund—(cheers)—which now amounts to 1,381,250*l.* (Cheers.) It is possible that some may think our reserve fund is sufficiently large already, and that it is unnecessary to add to that amount; but I am quite sure when you look at the amount of our liabilities, and consider that those liabilities, as a rule, increase each year, you will agree with us in thinking that in good years it is only prudent on our part to put some portion of our profits to the amount of that fund. (Hear, hear, and cheers.) You may depend upon it that nothing gives greater security to shareholders and customers alike than to find in an institution of this description that in addition to the reputation for prudence in the management they find that the paid-up capital and reserve fund amount to a large sum—(cheers)—and I am happy to think that our paid-up capital and reserve fund now amount to 3,541,250*l.* (Renewed cheers.) The value of money during the past year was slightly lower than in the preceding year—1882—which, of course, affected our profits to some extent; but I do not think that we have much to complain of, seeing that we are able to make such a very ample return upon our large paid-up capital. (Hear, hear.) But the year that has passed required on our part a considerable amount of care and caution in dealing with the affairs of a great institution like this, because we are still passing through what is called a "period of depression." Now, I am not sure, gentlemen, that that phrase entirely describes, or rightly describes, the position of commercial affairs in this country. Whilst no doubt there is a severe depression in many industries and trades that are carried on in this country, I think we are also passing through a very great change in the method of conducting business. All those old landmarks that used to indicate pretty clearly what the probable course of events would be for a short time to come seem to be passing away. The same causes in these days do not produce the same results that they used to do formerly. Consequently I say that great care and great caution is necessary in the management of the affairs of this bank, and it is highly gratifying to us to find that, notwithstanding all those changes that are going on around us, we find the affairs of the bank to be in a thoroughly sound and satisfactory condition. (Cheers.) It has also been our duty to watch with care the progress of the different measures that have been submitted to Parliament where we have thought that those measures in any way affected our interests. Last year the Bankruptcy Bill was under discussion, and we thought it only right and proper to use great efforts to secure to the creditors of bankrupt estates the right to open accounts with local bankers instead of the large businessall being centred in London, and I am happy to say that the views we took upon that subject were ultimately adopted. (Cheers.) This year the question of light gold will come under the discussion of Parliament, and we sincerely hope that the plan which has been initiated by the Chancellor of the Exchequer in his Budget speech will become law. (Cheers.) After mature consideration we believe that that plan will not only be satisfactory and of importance to the banking interests of this country, but also to the whole community likewise. Gentlemen, in the variety of subjects and the different kinds of business that we have had to transact during the year we have received the greatest assistance from our two friends, Mr. Robinson and Mr. Churchward, our general managers. (Cheers.) Our best thanks are not only due to them, but to those of our able officers, both in London and the country, who have so well carried out our views. (Cheers.) And now, gentlemen, I think I have touched upon all questions that are likely to prove of interest to you, but before I sit down I will ask you to take the balance-sheet in your hands while I show you the variations that have occurred since we last met. I have told you a great many times that it is quite unnecessary for the Chairman at these meetings to say one word about the position of this bank when you have the figures of the balance-sheet before you, which will be found, I believe, quite as satisfactory now as in times past. You will find that over paid-up capital shows an increase of 33,750*l.*—the amount of the call that was paid last January. Our reserve fund shows an increase of 48,750*l.* The amount due by the Bank on deposits, &c., shows this year the moderate increase of 140,809*l.*, but you will observe that the figures amount to 32,230,975*l.* Our acceptances are 140,809*l.* less, showing that trade has not been so active as generally. Then you will find that the amount that stood at the credit of the profit and loss account at the close of the year was 386,389*l.*, which is made up of the amount you received last January; of the dividend and bonus which you are about to receive in July and the amount we propose to carry over. On the other side of the accounts—the assets—you will find that our cash at the bank, at call, at short notice, and so on, was 582,977*l.* less, but that our English Government securities showed an increase of 369,041*l.*, and that they amounted on Dec. 31 to 6,036,985*l.* Under the head of Indian Government and other securities, railway debentures, &c., you will find that there is a slight diminution of 155,455*l.*; but looking at the whole of our investments, which amounted to 9,511,153*l.*, there is an increase of 213,598*l.* as compared with last year. (Cheers.) Under the head of bills discounted, loans, &c., which amounted to 19,708,553*l.*, there is an increase of 554,530*l.*; and under the head of the banking premises in London and the country there is an increase of 32,276*l.*, which is principally accounted for by the purchase o our very excellent premises at Liverpool, and by the necessary building of new office in South Kensington. This shows a total on both sides of the accounts of 38,529,447*l.* Gentlemen, I will now, if you please, move the adoption of the report. When that is seconded I shall be very happy to answer any question that any shareholder may desire to ask.——Mr. JOHN OLIVER HANSON seconded the motion.

Mr. W. REEVE, after congratulating the directors and his fellow-shareholders on the continued prosperity of the bank, said the proposed plan of dealing with the gold coinage seemed to him a very injudicious one, and with regard to it he quite agreed with the opinions expressed by Mr. Hubbard, whose high authority was well known. If the gold had to be re-coined let it be effected in a honourable and just manner, and let the Government pay for it out of the Exchequer, instead of clipping the half-sovereign. With regard to the Budget, there would he supposed be a depreciation in the funds, and they would probably lose upon their holding of Consols. He expressed his deep regret that the bank had acted as agents for the Nizam Railway, and said the name of the bank was too high for that sort of thing. ("No, no.") Mr. Reeve also asked for information with regard to the benevolent fund.

Mr. J. RUSSELL FREWER entirely disagreed with Mr. Reeve in regard to the Nizam Railway. He believed the company would eventually be a good customer to the bank, and he had emphasised his good opinion of the prospects of the railway by taking some shares in the company. (Hear, hear.) He asked whether the item of bank premises was taken at the cost of the premises, and whether the premises were generally leasehold or freehold? Would the Chairman also give some information with regard to the "certified returns from each branch," referred to in the auditors' certificate?

The CHAIRMAN: I think Mr. Reeve's first point was the gold coinage. I am always very sorry to differ with him in opinion upon questions of that sort, which I have no doubt he spends a great deal of thought upon; but in this room, whatever our private opinions may be upon the question of gold coinage, we look upon it as bankers, and I can assure the meeting that it is of the greatest importance to this and other banks that that measure which the Chancellor of the Exchequer has shadowed forth should pass into law, because we shall save very considerably, indeed, if it does become law. (Cheers.) At present the state of the gold coinage costs us a considerable sum every year in dealing with it. By this ingenious and able plan we shall escape from that loss, and, of course, that will effect the interest of the whole banking community. But not only will it affect the interests of banks, but I need hardly dwell upon the great inconvenience that would occur to the public if the course was taken now that was taken about 40 years ago—that is, if all this gold was called in, and every time you went into a shop or a railway station your sovereign was weighed and you had to pay 4d., 6d., or 8d., or whatever the deficiency might be, before you concluded your transactions. By this plan of the Chancellor of the Exchequer not only will the gold coinage—that is, the sovereign—be put right, but it will be kept right for all time, because the saving will be so considerable that a fund will be formed, the interest of which will keep our sovereigns in proper order for all time to come. (Cheers.) I give that as my opinion in this room; but I confess that my private opinion goes also completely in that direction. It seems to me to be a most simple and proper plan. Why is the half-sovereign, as it now is, to be abolished? It seems to me for two reasons—first of all, it is a most expensive coin to keep in repair, the wear and tear being so considerable; and secondly, because it will effect this great aim. Gentlemen talk of "tampering" with the gold coinage, the "degradation" of the sovereign and all the rest of it; but if this measure is carried out it will have exactly the opposite effect. Why is it going to be done but to put the real gold coinage into the best possible condition. At present it is in a most unsatisfactory condition, for, if you take 10 sovereigns in your hand, five or six of them will certainly be light. As Mr. Reeve says, our gold coinage is used all over the world. That really applies to sovereigns, for half-sovereigns form only a very small portion of the gold that is exported, and it is exactly with the object of providing that the gold we send abroad in the shape of sovereigns should be of the proper weight that this measure has been introduced. (Cheers.) Mr. Reeve says, let the country pay. Are we are all prepared to go on paying? We pay enough at present. (Hear, hear.) If the Government devise some mode of carrying this out without asking us for another halfpenny on the Income Tax, or something of the sort, I, for one, am very much obliged to the Government. I should have imagined that, between Queen's taxes and local taxes, even Mr. Reeve would have been satisfied without paying any more. (Cheers and laughter.) With regard to the reduction of the interest on the debt, I do not think that we, as bankers, have anything to do with that; but, speaking as one of the public, I rejoice at the probability of the interest on the National Debt costing less than at present, and I am glad to see the amount of that debt being reduced as fast as it now is. (Cheers.) As to the Nizam Railway, we took that business just like any other business that seemed to us a satisfactory piece of business for this bank to engage in. We have nothing more to do with it. If it is not successful, we are very sorry for it. We merely take it as a piece of business which it was right and proper for the bank to take. The benevolent fund, I am happy to tell you, grows and prospers, and it is of the greatest use to the widows and daughters of our deceased officers. I hope it will grow to larger proportions, and that the good it effects will annually increase. The banking premises cost a good deal more than the sum here put down, because you will recollect that three years ago we wrote off a considerable sum; but, in addition to that, we have a depreciation fund, and we write off so much per cent. every year, both upon the freehold and upon the leasehold—on the leasehold, of course, considerably more than upon the freehold. (Cheers.) As to the certificated returns, the auditors have access to every book and document we have in the house, and these returns are signed by the manager and accountant of each branch, and in addition to that our inspectors, who are always travelling over the country and visiting the branches, certify to us also that the returns sent up to us are in accordance with the books of the bank at the branches. I think that every means is taken to ensure a faithful record of what takes place. Perhaps it might interest you to state, without mentioning the name of any other institution, that we do not lose a single shilling by any of the calamities that have fallen upon the city within the last few months. (Cheers.) As I stated before, in our judgment the condition and position of the bank is all that we can desire. (Cheers.)

The motion was then put and carried unanimously.

The CHAIRMAN moved the re-election of the retiring directors, the Hon. Eliot Thomas Yorke, Mr. Robert Wigram, and Mr. Charles Barclay.

Mr. DUNCAN MACDONALD seconded the motion, which was adopted, and Mr. WIGRAM, in returning thanks on behalf of himself and his colleagues, referred to the soundness of the bank, and the devotion shown to its interests by the general managers and the other officers.

Mr. HARRIS proposed the re-election of the auditors, Messrs. Edwin Waterhouse (Price, Waterhouse, and Co.) and Roderick Mackay (R. Mackay and Co.)

Mr. FREWER secondedhe proposition, which was adopted.

Mr. RILEY proposed a vote of thanks to the directors for the efficient manner in which they had managed the affairs of the bank.——Mr. REEVE seconded the proposition, and it was carried.

The CHAIRMAN briefly acknowledged the compliment.

Mr. WILLIAMS moved a vote of thanks to the general managers, branch managers, and other officers of the bank.——This was seconded by a SHAREHOLDER and carried, and Mr. ROBINSON returned thanks.

The meeting then closed with a cordial vote of thanks to the Chairman.

WHEAL UNY.—At the meeting on Thursday (Mr. J. H. Dingle in the chair) the accounts showed a loss on the 16 weeks' working of 1495*l.*, and a total debit balance of 7055*l.* A call of 10s. per share was made.—Mr. A. Lanyon called for the records of the committee meetings. One of the minutes stated that Captain Hooper, of East Uny, had applied for a contribution of 50*l.* per month towards their pumping charges, and that the committee had replied that they did not see their way to do so.—Mr. Lanyon here said he did not think that the committee of that mine were at all necessary.—The Chairman said he represented a large body of shareholders who were desirous of having a committee. One gentleman had written him—"I think all mines ought to have a committee of management."—Mr. Lanyon was informed of the name of the writer, and said he knew him better than the Chairman, and he thought he could alter his views. He complained that the time of the last meeting was fixed by the Chairman, and he was, in consequence, unable to be present. He felt aggrieved, and justly so. In conversation with the Chairman after, he was told that "he supposed a man could manage his own property."—The Chairman thought Mr. Lanyon was putting the matter in a more personal way than it was uttered.—Mr. Lanyon: No.—The Purser explained that the Chairman was unaware of the fact that Carn Brea meeting was on the same day.—Mr. Lanyon: Is it to the interest of the adventurers that one gentleman shall rule this mine?—Mr. Bain: Or the manager? or both?—Mr. Lanyon: Or the manager?—There was a considerable discussion, Mr. Lanyon arguing that it was not to the benefit of the mine to have a committee.—The committee agreed to resign indefinitely, and they were thanked for their past services.—Mr. Williams referred to his inspection, and spoke in high terms of the manner in which the underground work had been carried out. The whole future of the mine depended upon the sinking of the shaft—in getting down into the granite.

EAST UNY.—At the meeting on Thursday (Mr. R. S. Teague in the chair), the accounts showed a loss on the quarter of 551*l.* and a total adverse balance of 979*l.* A call of 3s. per share was made.

FOREIGN MINES.

ALMADA AND TIRITO CONSOLIDATED SILVER.—Richard Harris, April 5: Mina Grande, 100 Lode: Driving north of No. 1 winze, 24 level, produces 4 American tons per lineal fathom; driving south of No. 2 winze, 24, produces 8 American tons per lineal fathom; driving north of No. 2 winze, 24, produces 12 American tons per lineal fathom; sinking No. 3 winze below 12 produces 12 American tons per lineal fathom; driving north 12 produces 4 American tons per lineal fathom; stope in back produces 16 American tons per fathom; stope in back 40 ft. drift produces 6 American tons per lineal fathom.—Western Branch: Driving south at 12 produces 4 American tons per lineal fathom; driving south at 40 ft. drift produces 4 American tons per lineal fathom; stope in back of tunnel produces 12 American tons per lineal fathom; rise in back of tunnel produces 12 American tons per lineal fathom; driving south at tunnel level produces 12 American tons per lineal fathom; San Juan stope produces 12 American tons per lineal fathom.

— W. A. Clemes, March 31 to April 5: Milling ore from new pillar 32·6 ozs. per American ton; battery samples, 85 ozs., 29·2 ozs., and 37·3 ozs. per American ton; drifts at 24, 25·6 ozs., and 27·4 ozs per American ton; No. 3 winze, 32·4 ozs. per American ton; western branch tunnel level smelting ore, 64·2 ozs. per American ton.

BELT COPPER.—A. Brand, April 14: My last report was dated March 24; I now have to report as follows:—Champion, No. 1 Level East: There has been no change in the level whatever since my last report.—Stope in No. 2 Shaft East: We continued stoping on the east side of this shaft until choked up by trade; we have now changed over to the west side of the shaft, and are stoping there immediately opposite to our old stopes. This stope shows good heavy barrel work and some stamp rock. In the large stope we are now getting out the mass referred to in my telegram of April 4. We had to cut two wings off this mass. The solid body of it, I believe, will go about 3 tons, and if the two pieces out off Together with what is still hanging, will go over 7 tons. Our reason for cutting this was because it was too large to hoist. What is still hanging appears to be about 6 ft. long; this, however, may break up into small pieces. Should it, however, remain solid, it will probably make the whole mass to have been about 10 tons. No. 2 stope east looks poor, and we are now skimming along the level to increase the stope. No. 2 stope west looks better than it has ever done. After going into what we thought was the hanging-wall, but which turned out only to be a bunch of trap, we have found the vein richer than ever in heavy barrel work, and some stamp rock. No. 1 stope east is looking very well in barrel work with some stamp rock. In No. 1 stope west we are now stoping out the north side of the level, and on a level with it. We are in about 30 ft., and the vein looks very well in heavy copper. We have several pieces in sight now, one of which is about 2 ft. square. We have now hoisted out the rock and pumped the No. 1 shaft dry to the back of the third level. As soon as we get this level, which is about 80 ft. long, dry, we will finish hoisting the rock, and commence drifting and sinking again. Our stopes now show us what our driving did not—that the vein is very much mixed, intrusion of trap coming in everywhere. Towards the hanging-wall there appears to be more copper. Towards the foot is the epidote, which contains light copper, and to which I refer later. Our average hoisting for the last week has been:—Day, 55 skips; night, 29 skips. The most part of the night hoisting has been from No. 1 shaft between second and third levels. The large mass in old No. 2 shaft is now being cut: total length 18 ft. It will be hoisted on Sunday, and will take all day to do it. It will, I think, go a little over 10 tons. In No. 2 stope west we blasted down the day before yesterday one piece, about 3000 lbs. In the stope in new No. 2 shaft we have three pieces in sight, probably 1000 lbs. In No. 1 stope west one piece in sight, at least 1000 lbs. At Knowlton shaft the vein still continues to go off at a greater angle. In a few shifts more we shall be able to begin driving No. 2 level. The party of contractors who had the No. 1 level have quit work, and I am unable to find new men to take it on account of the bad air. We are now surveying the ground to find a suitable place,to sink an air-shaft, but should this prove too expensive, I will widen the level and put in a brattice; but I am inclined to think that the air-shaft would be the cheaper of the two, as even a long drill-hole would be sufficient to ventilate, provided we can find a suitable place.—Wolseley: This shaft is now down the required depth to begin driving our first level, and is at present being squared up. Nothing further to report.

CORPORATION OF SOUTH AUSTRALIAN COPPER.—Captain Bryant, March 22: Blinman Mine: In the 70 north we have succeeded, under great difficulties, in sinking a winze in the bottom to a depth of 2 fms. in the cavity; the present bottom of the winze is full of lode matrix, the greater part of which can be removed by shovel, composed of minute particles of malleable coated sulphurets and fahlers. From what we have seen of the level we have every confidence that improved results will be met with in cutting the lode in the 80. The stope in bottom of the 60 south is worth 3 tons of 25 per cent. ore per fm. The stope north of shaft and south of winze is worth 3½ tons of 25 per cent. ore per fm. These stopes look well, although producing but little work that can be hand-selected, yet they are yielding splendid dressing work. The stope in bottom of the 50, south of shaft, is worth 2½ tons of 25 per cent. ore per fm. The stope south of winze is much the same as last reported. The stope in the arch north of shaft, in this level, is worth 2½ tons of 25 per cent. ore per fm. Our average returns of late—30 tons of 25 per cent. ore per week—judging from present appearances will be maintained, and with copper at a fair price would yield handsome profits. The machinery is in good working order.

CANADIAN COPPER.—Francis Bennetts, April 24: Hartford Mine: The ore portion of the vein at the points now being worked is as follows:—The stope in bottom of the 70, east of No. 5 shaft, is 4 to 6 ft. wide. Four stopes in bottom of the 50 the ore averages 4 ft. wide. Two stopes in back of the 50 the ore is 3 ft. wide. In bottom of the 23 the ore is 5 ft. wide. In back of the 40 2½ ft., and in back of the 10 2 ft. wide. In the stope in bottom of the 23, west of No. 5 shaft, the ore is 2 ft. wide. In side of the 23 it is 3 ft., and in back of the 10 3 ft. wide.

East of No. 3 shaft a stope in back of the 10 contains ore 2 ft. wide. West of No. 1 shaft a stope in bottom of the 40 has ore 5 ft. wide. The smelting works were running well up to Saturday last, when we shut down for a time, as the roads were so bad that we could not get down the ores; the detention will not be long, as the roads are settling fast.

DENVER GOLD.—Frank S. Craven, April 21: 800 West, North Vein: Drift is in 286 ft. east from cross-cut. Crevice is split by keyrock. No pay in drift at present; 13 men are stoping above this drift. Pay service is about 20 in. wide on the average; 106 tons mill ore last week (seven days), yielded 52½ ozs. gold. No smelting ore sold, but 10 tons hoisted for shipment.—900 West, North Vein: The west drift is in 87 ft. from cross-cut; it is softer, but barren. The east drift is in 30 ft. from cross-cut, and shows some improvement. The vein is 2 ft. wide, and we hope that the ore will pay. We are now running a test lot. The stopes under the 800 drift and east and west from top of winze are very fine indeed. The pay crevice is 2½ ft. wide, and consists largely of smelting ore. Of this we have as yet sold none; 32 tons mill ore yielded 16½ ozs. of gold: eight men are stoping this ground.—900 West, Main Vein: Four men are now making two rises in this ground from backs of recent stopes; 41 tons mill ore last week yielded 17⅗ ozs. gold.—1350 West, Main Vein: The drift is in 361 ft. from shaft, and must strike winze in a day or two. We have started a rise over drift to hasten connection with winze and more rapidly get ground into shape. Crevice is 2 ft. wide, and looks well; 13 tons mill ore yielded 4½ ozs. gold. Total milling for the week (seven days), 192 tons ore and 90⅗ ozs. gold. No smelting ore sold, but some 20 tons ready for sale.

DEVALA MOYAR GOLD.—Manager, April 14: Strathearn Reef: We are now into the reef at the point described in my last report 20 ft. The quartz is poor, but having gone so far in prospecting I think we should continue the work for the present. The Harewood tunnel has been driven 2½ ft. for the week, making a total distance of 219½ ft. At Salomon's reef the lower tunnel has been extended 5 ft. during the week, and the ground has become softer. The winze or shaft has been sunk 6 ft., total 124 ft. The reef is 4 ft. wide, and the appearance is unchanged. The 60 ft. level has been extended 4 ft. The reef is 7 ft. wide, and the quartz greatly improved in appearance. We are crushing 40 tons from this drive, and I anticipate better returns than have been obtained as yet. The 140 ft. level has been driven 3 ft., but there is no other change to report.

EBERHARDT.—Frank White, April 12: Raise No. 2: The 11 ft. of drift from the left hand side of this raise has in the past week been increased 5 feet; total length of the drift, 16 ft. There is no change in the showing or character of the quartz. Drift No. 1, from the 6000 ft. west, has been advanced 3 ft.; total length, 816 ft. There is considerable white spar running through the lime, and the general broken up condition of the last several feet continues. I think now that in the coming week I will come back 43 ft. from the face to the cross seam, upon which we turned to the left (as reported on Feb. 9), and make a cut to the right of the main drift, hoping to find the formation less broken, and possibly the wall, and a better ledge material. Drift No. 2, from the 6000 ft. west, has been advanced 11 ft.; total length, 549 ft. As indicated last week might be, we have this week run under the quartz, bringing the face of the driving wholly into lime, the bottom of the quartz coming only to the back of the drift. I shall at once near to the face of the drift, and commence an incline upraise, following the quartz, probably, at an angle of about 45°. What thickness or extent of the quartz we may find can be known, of course, only as developed.—Weather; "Winter still lingers in the lap of spring," with clouds and storms. Much snow still in Eberhardt, while up the canyon, from here to Hamilton, the road for horse or vehicle is utterly impassable, and all along our pipe line the depth of snow is great, it having as yet settled but little. It must needs be some time before such an amount of snow can wholly disappear. No water has yet come down the canyon. We naturally suppose, however, that the present condition cannot last many weeks longer.

— Frank Drake, April 19: No. 1 drift from 6000 ft. west is advanced 3 ft., cutting to the right of the main drift on the cross-seam; total, 819 ft. General appearance unchanged. No. 2 drift from 6000 ft. west is advanced 4 ft.; total, 553 ft. The rock is very hard to drill. In the incline upraise commenced last week we have made 12 ft., advancing with the ledge; the quartz is 3 ft. thick, and looks about the same as when cut in the drift below. The pitch or incline of the quartz is rather too flat for convenient handling of the broken rock, but is a small matter if the quartz will but make into more ore. The ore continues to show much the same as in the last few weeks, and must be followed to what ever end the result will prove.

LAKE SUPERIOR NATIVE COPPER.—Capt. Williams, April 12: No. 2 level, south of No. 2 shaft, advanced 1 fm. 1 ft.; lode 7 ft. 6 in. wide, producing good millwork, much improved. In No. 3 level the men have been engaged in stripping down the lode in the footwall; producing very fine millwork. The lode in the side of both the above levels is steadily improving and carrying heavy copper. Level at Harbour advanced 4 ft.; lode much the same, driving stopped for the present on account of water. The stopes continue to produce good mill rock. The mine is looking better than I have ever seen it, especially in the bottom. We are busy cutting plat in No. 2 shaft, No. 3 level, preparatory to sinking. If this south shoot of mineral improves in the next lift sunk as it has in the last it will be very rich indeed, and I am pleased to say there is every indication of its doing so.

MYSORE GOLD.—B. D. Plummer, April 15: We are getting on tolerably well with the sinking below the 173, Taylor's shaft. The ground is lighter than it was on the footwall side, of which we carry about 2½ ft.; this is hard green stone, it is not laminated like the gniess rock. The lode is composed of dark coloured quartz, in which gold can be frequently seen; assay 1 oz. 21 grs. The rock on the hanging side is composed of light coloured slate; the pipes of ore have a dip, or inclination, north, and in the south end of the shaft the lode is 12 in. wide, dwindling to a small branch at the north end. I believe the lode in its dip will become wider in the north end as we sink the shaft deeper; the finding of gold in this deepest working on the field has given me great satisfaction. The 173, north end on eastern vein, contains a very fine looking lode of quartz; it will yield 7½ tons per fathom, according to assay value 11 dwts. 1 gr. of fine gold per ton. The winze over this end in bottom of the 135 is in a good big lode; but the assay this week shows it to be of little value. The 173, north end on the west lode, carries a branch of 8 in. wide of good looking quartz; present assay value 5 dwts. 5 grs. fine gold per ton. The 135, south end on the eastern vein, is in a large mass of quartz, and, as the assay shows it of no value, I have decided to get the level dialled over to connect it on the paper with the western lode. I fancy it must be a cross-course, and if it is we must adopt another course of working. We have commenced to make preparations to sink a winze below the 173 north of shaft; this is on the western side of the vein; the object of this winze I explained in my letter last week. As we progress with the work underground the improvement is tangible, and so far as the size of the lode and assay value of the ore goes, we may be satisfied; but nothing can be positively known before we have put a few hundred tons of ore through the stamps.

NEW POTOSI.—Telegram: 426 to 450 tons of quartz crushed, 276 to 300 ozs. of gold remitted; 15 stamps running 24 days full work; 25 stamps will be running from May 1.

PESTARENA UNITED.—Gold Returns for April: Pestarena district, 354 ozs. 9 dwts. 6 grs., from 498 tons of ore, equal to 14 dwts. 5¾ grs. per ton. Val Toppa district, 124 ozs. 8 dwts. 12 grs., from 310 tons of ore, equal to 8 dwts. 0¾ grs. per ton. Total, 478 ozs. 17 dwts. 18 grs. of gold, obtained from 808 tons of ore amalgamated, showing an average yield per ton of 11 dwts. 20½ grs. to the ton.

PESTARENA UNITED.—Wm. Roberts, Wm. Roberts, jun., May 2: District of Pestarena: The 110 end driving south, on No. 1 lode, is advancing in siliceous rock, with a small vein of quartz thinly charged with pyrites against the western wall. The 120 end driving south on a branch is a new end south of cross-cut, on the branch cut through in March, which gives hopes of opening out a little ore, and yields 3 tons per fathom of 10 dwts. per ton. The 130 end driving south yields 3 tons per fathom of 9 dwts. per ton, and carries two small branches of quartz and pyrites 1·40 metres apart, the intervening rock being of a massive siliceous nature. In the incline shaft, sinking under the 140, the lode has somewhat widened out again, being now 1·40 metres wide, chiefly of a friable quartz, thinly charged in places with pyrites; it yields 6 tons per fathom of 5 dwts. per ton. The winze sinking under the 55 north is going down in a mixed lode of schist, quartz, and pyrites, and yields 7 tons per fathom of 10 dwts. per ton. The winze sinking under the 120 has a small compact lode of quartz and pyrites, yielding 5 tons per fathom of 18 dwts. per ton. In the intermediate drive over the 110 south the lode shows a little contracted in the sole of the level, whilst in the roof it maintains its size and character; it yields 3 tons per fathom of 12 dwts. per ton. The 33 end driving north, on No. 5 lode, is in a jointy siliceous rock, carrying a divisional line only to mark the line of lode. The 65 end driving south is a new end started on the branch discovered in the cross-cut, which has the bearing of No. 5 lode, and no doubt will be found to be the main part of the lode after opened on. The 90 end driving north is in stratified schist traversed by strings of quartz, carrying a good hanging-wall, but has no ore to value. The intermediate drive over the 80 north has been communicated to the winze from the 65, and stoping resumed over the level. The intermediate drive over the 65 north has reached the extent of the ore ground, and stoping will be resumed above the level. The intermediate drive over the 90 north has also reached the extent of the ore ground, and stoping will be resumed above the level. In the 110 cross-cut, driving west from No. 1 lode, there is no change to notice, and fair progress is being made. The 65 cross-cut, west from No. 5 lode, has intersected a divisional line carrying a little quartz and pyrites, and driving has been commenced on the same.

— W. Roberts, H. J. Gifford, May 2: Val Toppa: The rise on new lode in back of No. 1 level, is in solid schist, with only a few patches of quartz; and for the present work is suspended, to resume driving the end. In the end on branch east of new lode, No. 1 level, the lode is somewhat smaller and harder, but contains good solid stones of pyrites, and gives promise of opening out again; it yields 5 tons per fathom of 12 dwts. per ton. From the winze on branch east of new lode, under No. 1 level, after communicating with the cross-cut beneath, we have begun driving north and south along the bottom of the ore, so as to open up the ground better for stoping. The drift north from winze, east of new lode, No. 1 level, is in a wide mixed lode, yielding 6 tons per fathom of 8 dwts. per ton, the quartz showing small veins of galena. In the drift south from winze, east of new lode, under No. 1 level, the lode is more solid than in the drift north, and yields 7 tons per fathom of 8 dwts. per ton. Further south we also hope to find better ore, as in the level above. The intermediate level, under Rero, driving south, is in sterile micaceous schist. The rise from No. 2 level to new lode is in hard schist, but there are a few patches of quartz, which seem to indicate that we are near the lode.

PIERREFITTE.—Manager, April 28: There is no great improvement perceptible in the mine since last report, but I am glad to say the lode in the intermediate level holds good, and I feel confident we shall find it equally as good in the level below. We are pushing on with the cross-cut in No. 2 level, south-east of the slide, as fast as possible, but the ground continues to be very hard, and little progress can be made. I expect we shall have to cross-cut about 6 or 8 metres more before we arrive at the run of ore ground which we have in the level above. In the middle level north-west I expect we shall have room by the end of this month to begin a new stope. The ore bearing part of the lode in the end is about 2 ft. 6 in. wide, and is worth 2½ tons of lead ore per fm. The lode the other side of the slide is worth 7 tons of lead and blende per fathom for the width of lode; we expect to be able to put on four extra hands here the beginning of next month. The stopes are about the same value as when I last reported. Good progress is being made in driving No. 2 adit, north mine, and I expect we shall soon be in under the winze gone down from the level above, and where I am told there is a good course of ore. We have had a great deal of rain lately, and more water than is necessary for driving our machinery.

QUEEN OF THE HILLS (UTAH).—For about a month now Mr. Davis has been working at the Silver King Mine timbering and getting it into a safe condition for working. We bought the engine that was formerly on the Chicago which, with one of the boilers from Rush Lake, is now being put in place. Shortly after this is done the main shaft will be sunk, it is expected, 100 ft. deeper and the vein explored laterally in a number of places in order to determine the ore-producing capacity of the mine preparatory to putting up the concentrating works. Should there be any doubt as to the permanance or sufficiency of the output, it is believed that this property can be sold for more than enough to recoup the entire sum subscribed; but at present the outlook in this respect is very assuring, and the quality of the ore is much better than a sample lot sent to New York. It will take 60 days more to determine this question.

RICHMOND CONSOLIDATED.—Telegram, May 6: Week's run (one furnace) $12,000 from 317 tons of ore. Refinery $13,000.

RUBY AND DUNDERBERG CONSOLIDATED.—April 13: Dunderberg: There are 27 tributers at work; there is quite an improvement between the 400 and 500 ft. levels in the stope worked by King and Co.—Home Ticket: The north drift from the bottom level has been advanced 7 ft. during the week; total, 24 ft. from the west drift. The end is in favourable looking ground for ore. The foregoing is the only work done in the mine during the past week, the men all having refused to do any more work on the 10 per cent. contract. Our future plan of working will be as follows:—First, divide the mine into four or five sections, each section to be worked separately by small companies of from two to six men. Second, the percentage to vary according to the showing of ore in sight. By this arrangement we can get the mine worked in a more satisfactory manner for this reason—formerly, when all the men working in the mine were in partnership, they all wanted to work where the ore looked best, and would not follow up small seams of ore which often lead to good-sized bodies. There are nine men at work on the new system; the force will be increased so soon as the ore already mined on the former contract be hoisted to the surface; 46 tons of ore shipped this week.—Lord Byron: The orebody near the end of the tunnel continues about the same size, but the quality of the ore is not so good as heretofore. There are about 40 tons of ore extracted, which are now being sacked and removed to the wagon road when work will be resumed on a new contract. A contract has been set to connect the end of the tunnel with the cave at 37 per ft.; distance about 40 ft.

— Telegram, May 6: No ore shipped. Roads blocked with snow the whole week.

UNITED MEXICAN.—Mr. Hay, April 14: Mine of San Cayetano de la Ovejera: Diamante: In the cross-cut to the alto of frente No. 1 of San Juan west we have a strip or vein 1 metre broad, which contain but little ore. In pozo of San Antemio the lode is 1·60 metres broad, and in it a strip of 25 centimetres of fair ore has been discovered during last week. In frente No. 2 of Santa Rosa west the lode has gradually decreased in width, and at present is reduced to a strip of 25 centimetres wide of fair ore. The lode in frente No. 3 of San Juan east is 1·60 metres broad, with ore ramified all over it, but no change has taken place in this end. In frente No. 4 of San Juan east the lode is 1 metre wide, with ore in patches. In pozo No. 2 of San Juan the ore has given out. When in my last report I stated that the lode in pozo No. 6 of San Juan was 3·60 metres wide. It was because to all appearances we had holed the upper wall of the vein. This was not the case on the other side of that wall. We found the lode still in ore, and it is now 5·60 metres wide. The new width of the alto is well defined, and the run of the lode is north-west. The centre of the lode on a width of 2 metres is quite unproductive, but the remainder on both sides is in good ore. In pozo No. 7 of San Juan the vein continues to measure 1·60 metres in width in good ore. The contracielo from the top of pozo No. 4 of San Juan shows that the lode is getting broader. It has now a width of 2·20 metres, of which 1·20 metres are in good ore. There is a slight improvement in frente No. 9 of San Andres west. The lode is 1·70 metres broad. We must hole in frente No. 4 of San Juan east. In frente No. 10 of San Andres west the lode continues to measures 80 centimetres in width all in good ore. Though the width of the lode in pozo No. 1 of San Andres has increased to 90 centimetres, the ore is perhaps of a lower ley. In pozo No. 2 of San Andres no ore is found, but appearances of silver are discovered. Pozo No. 5 of San Andres continues to give good ore on the whole breadth of the lode 80 centimetres. We sold on 9th inst. in public sale about 285 cargas for $8611. We remitted to Duran 354 cargas, and sold 1 carga 9 arrobas 6 lbs. of bonito, making the total output for the week amount to 640 cargas. Returns from the Mine of San Cayetano de la Ovejera for the week ending April 12, $12,566; outlay, $3660.

ANTISEPTIC TREATMENT OF TIMBER.

This is a subject of, perhaps, greater interest to those connected with mining than with any other industry. The paper of Mr. S. B. BOULTON, read before the Institute of Civil Engineers (the President, Sir J. W. BAZALGETTE, C.B., in the chair) will be generally acceptable. The author commenced by referring to a paper by his late partner, M. H. P. Burt, Assoc.Inst.C.E., on the subject of Timber-Preserving, which had been read at the Institution in 1853. Since that date the use of antiseptics for the treatment of timber had greatly increased. The process called creosoting, or the employment of the heavy oils of coal tar, had almost entirely displaced the other methods, whilst the manufactures connected with the residual products of gas-making, from one of which residuals the creosote oils were derived, had experienced an enormous development. The author's connection, during 34 years, with this group of industries, enabled him to offer the results of some personal experience and research, which he presented, together with those arrived at by other investigators.

An historical description of the antiseptic treatment of timber was preceded by a few notes on the methods pursued by the ancients for the preservation of wood and other perishable materials. The ancients were well acquainted with the manufacture and use of many kinds of oils, tars, and bitumens, and frequently used them for the preparation of wood, with respect to which some notable instances were cited. The methods employed by the Egyptians in embalming their dead were dwelt upon at some length, and the author endeavoured to elucidate some discrepancies in the descriptions of these processes, as recorded by Herodotus and Diodorus Siculus. The researches of Pettigrew were alluded to, particularly his interesting experiment upon the heart of a mummy, which, after 3000 years' preservation, began immediately to putrify, when the antiseptic substances were removed by maceration. This appeared to prove that no chemical transformation had taken place, but that the long immunity from decay had been the result of the abiding presence of the antiseptic.

The growth of theories upon the causes of putrefaction was traced down to the commencement of the present century, reference being made to the "Phlogiston," and other exploded theories; also to the opinions of Macbride, Sir John Pringle, Sir Humphrey Davy, Thomas Wade, and others, and to their suggestions upon timber preserving. The progress of timber preserving during the railway era, and particularly between the years 1838 and 1853, was described with especial reference to the competition between the four most successful of the processes. These four consisted in the employment of corrosive sublimate, sulphate of copper, chloride of zinc, and heavy oil of coal tar, which had been patented in England respectively by Mr. J. H. Kyan, Mr. J. J. Lloyd Margary, Sir William Burnett, and Mr. John Bethell.

The distinction was pointed out between the real creosote, a product derived from the distillation of wood, but which had never been employed for injecting timber, and the so-called creosote which had been so successfully used for that purpose, the latter being a heavy oil produced from distillation of gas-tar. The theory that certain antiseptics preserved timber by coagulating the albumen, and by forming insoluble combinations with the woody fibre, had been advanced on behalf of all the four processes alluded to. But in spite of some acknowledged success, the Kyanizing, Margaryzing, and Burnettizing systems were not found to be so durable in their effects as creosoting. Indeed the salts of metals were gradually washed out of timber exposed to the action of water. On the other hand the success of the creosoting process became completely established.

In order to show the process of manufacture of the creosote oils, a short description was given of the ordinary methods of tar distilling. Coal tar, a black viscous substance, was a residual product of gas making. It was split up by a preliminary process of distillation into three groups of substances—namely:—

1°. Oils lighter than water, containing the naphthas, benzoles, toluols, and other bodies, from some of which the anoline dyes were manufactured. This series of oils had never been used for timber-preserving.

2°. Oils heavier than water; the dead oils or creosote oils of the timber-yards. These oils contained a great variety of different bodies, the properties of some of which were described, including carbolic acid, cresylic acid, napthalene, anthracene, crysene, pyrene, quinolene, leucoline, acridine, cryptidine, &c.

3°. Pitch, the residium of the distillation.

The creosote oils varied in their characteristics in different districts, according to the nature of the coal used in the gasworks, and to the varying temperatures at which the coal was carbonised. The type of creosote called "London oil," made from the tars derived from the coal of the Newcastle district, was contrasted with the so-called "country oil," typical of the product from the tar of the Midland and other coals. The former contained less of the carbolic and cresylic acids than the latter, but more of the semi-solid substance, which solidified within the pores of the timber, and more of the antiseptics which did not volatise except at exceedingly elevated temperatures. The history of the controversy as to the respective merits of the two types of creosote oils was fully gone into. The carbolic and cresylic acids had been recognised as potent antiseptics; their presence appeared to arrest the action of all destructive germs, and the lighter and thinner country oils, which contained a comparatively large percentage of these tar-acids had, therefore, been preferred by many. The opinion of Dr. Letheby to that effect was recorded. On the other hand, were cited the opinions and practice of the introducers of creosoting, and of the earlier operators in that process, who used in preference the heavier types of creosote; and the early success of that creosote, both in England and in tropical countries, appeared to confirm their judgment. A number of experiments were then alluded to, stretching over long series of years, and conducted by investigators in this and in other countries for the purpose of ascertaining which of the component portions of the creosote were the most durable and efficient agents in preserving timber. The results of these experiments appeared to show that it was not to the tar acids, but to the heavier and least volatile portions of the creosote, and to those bodies which solidified within the pores of the timber, that the most durable results should be attributed. This apparent anomaly was explained by reference to numerous eminent authorities upon carbolic acid, who, whilst extolling its action as a most useful and powerful antiseptic for sanitary and surgical purposes, were in general agreement as to its possessing the following characteristics:—That it was exceedingly volatile at ordinary temperatures, that it was readily soluble in water, and its combinations with the other bodies, including albumen, were not stable. It would readily evaporate from timber exposed to the heat of the sun, especially in warm climates, and it would be washed out of timber in contact with water. The author's personal experience and experiments fully bore out the conclusion, that the use of the heavier and less volatile portions of the creosote oils should be encouraged, and that from them the most durable results might be expected. Moreover, it was pointed out that recent invigators have discovered in these heavier oils bodies which, if perhaps less potent, were more durable in their antiseptic effects than carbolic acid. By judicious selection and admixture both London and country oils can be usefully employed. Shale oil and bone oil, however, and other oils lighter than water, should be excluded.

The modern-germ theory was discussed in its relation to timber-preserving, and was believed by the author to be a more practical explanation of the action of antiseptics upon wood than the older theories, as to the coagulation of albumen, and the formation of insoluble compounds. With respect to all bodies which have been extensively used for timber-preserving, their durable results appeared to be in an inverse ratio to their volatility in the atmosphere and their solubility in water. The germ-theory constituted a severe but salutary test in choosing antiseptics for the treatment of wood. In the author's opinion the substances preferred should be not only germicides but germ-excluders; those being the best which we e least soluble in water, least volatile in air, and most capable of becoming solid within the pores of the timber.

A description followed of the various kinds of apparatus which had been in use during the present century for injecting timber with antiseptic liquids. The paper concluded with some remarks upon the subject of the hygrometric condition of timber at the time of injection, failures having repeatedly arisen owing to the timber being too wet at the time of creosoting. The author dwelt upon the importance of this subject, describing also his experience with various methods of getting rid of superfluous moisture artificially, and of a process which he had recently inaugurated, by which this result could be obtained in the creosoting cylinder itself without injury to the timber.

The paper was illustrated by diagrams showing the most important products derived from coal, and the apparatus for coal-tar distillation and timber-preserving; also, by tables, giving the properties of coal-tar products and other substances, of timber-preserving specifications, and of more than 100 references to various authorities upon the topics alluded to in the paper.

It was announced that the Council had recently transferred E. B. Bright, W. Evill, and T. Matthews to the class of Members; and had admitted L. B. Atkinson, J. P. Clarke, C. J. Croft, J. D. Ferguson, M. Garbutt, A. Holden, N. P. Jasper, D. J. Lavelle, E. H. Marston, H. M. Phillips, J. Platt, B. A. Raves, C. L. Simpson, W. Stringfellow, and A. Westlake, as Students.

At the monthly ballot J. Y. Davidson, W. Davies, P. C. Gilchrist, W. K. Laurence, E. Pritchard, J. H. Ryan, B.A., C. Sellers, B. Tower, and J. West were elected Members; and A. D. Acland, Stud. Inst., C.E., P. Baylis, Stud. Inst. C.E., W. S. Bestic, Stud. Inst. C.E., J. H. Callcott, E. Collins, E. Connal, H. S. Cotton, Stud. Inst. C.E., A. J. Del Vecchio, E. D. Jones, A. F. Joseph, A. P. Kapteyn, A. Llobet, A. C. McMinn, M. Mildred, Stud. Inst. C.E., P. H. Palmer, H. R. C. Pauling, F. C. Phillips, D. A. Stevenson, B.Sc., C. J. Tisdall, B.A., and A. Wilson, M.E., Associate Members.

The following announcements were made:—

STUDENTS' MEETING, Friday, May 9, at 7 P.M.—Paper by Mr. A. R. Sennett, "On the Electric Light."

ORDINARY MEETING, Tuesday, May 13, at 8 P.M.—Paper to be read with a view to discussion. No. 1972, "On the Progress of Upland Water Through a Tidal Estuary," by Mr. R. W. Peregrine Birch, M.Inst. C.E.

GAS SHARES.—The principal business in these shares, according to this evening's report of Messrs. W. L. WEBB and Co., of the Stock Exchange and Finch-lane, has been:—Bombay (Limited), 6⅝; Brentford Consolidated, 195; British Gas Light shares, 41¾ to 41⅞; Buenos Ayres, New (Limited), 12⅛ to 12 13/16; ditto, 6 per Cent. Debentures, 1893, 104 to 105⅛; Commercial Consolidated, 245; Continental Union (Limited), Original, 35½ to 36⅛; ditto, New, 1869 and 1872, 24½; ditto, 7 per cent. Pref., 30; Gas Light and Coke, A, Ordinary, 209½ to 211½; ditto, D, 10 per cent. Pref., 228½; ditto, H, 7 per cent. Maximum, 147 to 148; ditto, J, 10 per cent. Pref., 223 to 227; ditto, 6 per cent. Debenture stock, 158; Imperial Continental, 199½ to 206½; Monte Video (Limited), 18 to 18⅛; Oriental (Limited), 8; Rio de Janeiro (Limited), 26⅝ to 27¼; South Metropolitan, A. 261 to 262½; ditto, B, 219 to 221; ditto, Perpetual 5 per cent. Debenture Stock, 127. Gas stocks have risen, and still look like going higher.

INSURANCE SHARES have, according to this evening's report of Messrs. W. L. WEBB and Co., of the Stock Exchange and Finch-lane, been dealt in as follows:—Alliance Marine (Limited), 20 to 20¾; City of London Fire (Limited), 9/16 to ⅝; Employers' Liability Assurance Corporation (Limited), 2; Fire Insurance Association (Limited), 1⅝ to 1¾; Imperial Fire, 138½; Law Fire, 16⅛ to 16¼; Law Life, 114¼; London and Lancashire Fire, 5 1/16; London and Lancashire Life, 3; London and Provincial Fire (Limited), 1/16; London and Provincial Marine (Limited), 4¼; Marine (Limited), 27¾; Merchants' Marine (Limited), 1¼; Phœnix, 200 to 201; Railway Passengers, 7⅛ to 7½; Rock Life, 8; Royal Insurance, 239½. Insurances unchanged.

TRAMWAYS.—The closing prices of this evening, as quoted by Mr. WM. ABBOTT, of Tokenhouse-yard, are given in tabular form in the last page of the Journal.

RAILWAY AND GENERAL MARKETS.—Referring to the course of business done to-day during official hours (11 to 3) Mr. Ferdinand R. Kirk Birch in-lane, write:—*Opening:* American railways have an irregular tendency, and on the whole are very little over last night's prices—the lowest seen for a considerable number of years. Erie shares are ⅜ higher, the mortgage bonds being that much lower. Reading shares remain at 18. Wabash Preference have fallen 1¼ to 15¾. Mexican Railway Ordinary remains unchanged at 38, despite the 4 per cent. dividend declared. Grand Trunk Third Preference remain at 28½, being quite 2*l.* below the highest reached by the Ordinary last year. The Ordinary are now 10; Montana, 2¾ to 3; Transvaal, 1⅜ to 1¾; Ecton, 1¾ to 1¾; United Mexican, 11¾ to 12; Colorado, 2⅝ to 2⅞; Copiapo, 2⅞ to 3¼.—*Closing:* Some sales have been made of Mexican railway stock, and notwithstanding the low prices ruling little regard has been paid to American stocks. East Wheal Rose, 12s. to 14s.; Old Shepherds, ¾ to ⅞; Mounts Bay, 4s. to 5s.; Home Mines Trust, ⅝ to ⅞; Organos, 1⅜ to 1½; Orita, ¾ to ⅞; Great Holway, ¾ to 1¼; Tolima A, 7¾ to 8¼; Columbian Hydraulic, 6s. to 7s.; and rather in demand. Chontales, 4s. to 5s.; Bratsberg, 1⅝ to 1⅞; South Darren, ¼ to ⅜; Victoria Gold, ⅝ to ¾.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
May 6	—Foxdale	100	£ 8 10 6	Adam Eyton.
8	—North Hendre	50	6 17 6	Walker, Parker, & Co.
	—Rhosesmor	50	6 19 6	ditto
	—Halkin	25	7 1 0	Adam Eyton.
	—West Trelogan	5	7 5 6	ditto
	— ditto	5	7 5 6	Walker, Parker, & Co.
9	—South Darren	20	11 12 6	Sheldon, Bush, & Co.

BLACK TIN.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
May 8	—Phœnix United	11	£49 2 6	Redruth Company.
	— ditto	11	49 2 6	Treseifle Company.

QUICKSILVER-WAVE AMALGAMATOR COMPANY,

FOR EXTRACTING GOLD AND SILVER FROM THEIR ORES.

(MOON'S PATENT.)

One of the amalgamators will be ready, and can be seen at work on and after 7th May, at the offices of Messrs. Johnson and Sons, 23, Cross-street, Finsbury (Assayers to the Mint and to the Bank of England). Arrangements are being made to crush ores there, as well as treat ores already crushed.

The amalgamators are made of sizes to treat 10, 15, or 20 tons per 24 hours; the power necessary is only from ½ to 1 H.P., according to size, and the supply of water required is only as in ordinary use for wet crushing.

No quicksilver is lost; and it is claimed that the process will save nearly 90 per cent. of the assay value of ore with sulphurets, and—all the free gold; and, moreover, by a method which is simplicity itself.

The actual costs of treatment by this process will be under 1s. per ton.

Private individuals or companies, having ores or waste heaps, in which it is proved by assay that gold or gold and silver exist, are invited to send samples, in bulk, to be tested.

Information on all matters in connection with above can be obtained at the company's offices, 27, Throgmorton-street, Bank, E.C.

THE POINTS OF THE PROCESS ARE:—

Simplicity of machinery and adaptability—

Saving of at least one-half ordinary costs.

Securing 25 to 35 per cent. more gold than by any process now in use at any mine (on a working scale) by securing all the float or flour gold, and a very large percentage of gold with sulphurets, pyrites, or otherwise.

THE PROOFS WILL BE:—

The actual working—on scale and by machine exactly as work would be done at the Mine: (assays simply to prove value of work done).

Registration of New Companies.

The following joint-stock companies have been duly registered:—

THE BENNETT GOLD AMALGAMATOR (Limited).—Capital 200,000*l.*, in shares of 2*l.* To manufacture and sell dry placer amalgamators, and any other machines and apparatus, the subject of any patent rights of the company. The subscribers (who take one share each) are—F. Pigeu, Dartford; J. Pennier, 2, Circus-place; C. Hoar, 11, Leadenhall-street; J. Dungay, Leytonstone; H. Cumming, 154, Fenchurch-street; F. Hoar, Forest Hill; S. C. Carter, Stratford.

THE CITY CONSTITUTIONAL CLUB COMPANY (Limited).—Capital 120,000*l.*, in shares of 1*l.* To establish, maintain, and carry on a club-house devoted to Conservative principles. The subscribers (who take one share each) are—H. R. Duke, 7, Queen Victoria-street; J. S. Wood, Southwark; A. V. L. Combs, Dorchester; E. Wickham, 15, Saint John's Wood Park; J. S. Pierce, Putney; H. G. More, Throgmorton-street; W. Williams, West Kensington.

BRITISH NORTH AMERICAN INVESTMENT COMPANY (Limited).—Capital 400,000*l.*, in shares of 10*l.* To carry on a money-lending and general financial business in connection with Canada or elsewhere. The subscribers (who take one share each) are—S. Hersee, 44, Mildmay Chambers; A. Partridge, East Dulwich; M. Smith, 15, Barnsbury Park; E. J. Morris, 58, Lombard-street; J. Stephenson, 3, Pall Mall; E. Merricks, 3, Ethel-street; R. W. F. Martin, Southend.

THE KIMBERLEY JUNCTION RAILWAYS (Limited).—Capital 1,000,000*l.*, in shares of 10*l.* To construct, maintain, and work an extension northward from the present Cape Government Railway, near the Orange River. The subscribers (who take one share each) are—Lord Brabourne, 3, Queen Anne's Gate; J. Edmeston, 42, Old Broad-street; H. F. Giles, 26, Great George's-street; A. Edwards, Blackh-ath Park; H. D. Pilcher, Morgan-lane; F. W. Freeze, 2, Pinners'-court; E. Harlebust, 11, Billiter-square; S. Abbott, Lincoln; A. H. Todd, Temple.

THE METROPOLITAN BREAD AND FLOUR COMPANY (Limited).—Capital 100,000*l.*, in shares of 5*l.* The business of manufacturers and makers of bread and similar products, in conjunction with certain acquired patents. The subscribers (who take one share each) are—R. H. Hudson, Biggleswade; C. Thompson, 34, The Grove; F. Archdale, Baldock; G G. Hall, 6, Fowkes Buildings; G. Powers, Bigglesdale; E. F. Powers. Bigglesdale; C. T. Powers, Bigglesdale.

THE NORTHERN TERRITORY CORPORATION OF SOUTH AUSTRALIA (Limited).—Capital 1,000,000*l.*, in shares of 10*l.* The general business of a land, agricultural, financial, and commercial company in connection with South Australia. The subscribers (who take one share each) are—The Duke of Manchester, Kimbolton Castle; A. Scott, 157, Leadenhall-street; W. F. Moore, Richmond; F. W. Lowther, 35, Hans place; T. B. Forsyth, 31, Lombard-street; C. R. Smith, 32, Nicholas-lane; A. Denison, 6, Albemarle-street.

THE METAL FRET-CUTTING COMPANY (Limited).—Capital 100,000*l.*, in shares of 10*l.* To acquire certain patents, and to carry on the business of metal workers, also of stained glass window manufacturers, and artistic, architectural, and ornamental workers in all branches. The subscribers (who take one share each) are—G. B. Malleson, 27, West Cromwell-road; T. G. O'D. Hervey, 45, Artesian-road; W. Bew, Adelaide-place; P. H. Bagenal, 8, Cromwell Residences; J. M. Hardy, North Finchley; E. Jumpsey, 57, Cadogan-place; C. C. Cotton, 10, Great Queen-street.

THE GREAT WESTERN (FOREST OF DEAN) COLLIERIES COMPANY (Limited).—Capital 30,000*l.*, in shares of 50*l.* To acquire by purchase certain collieries situated in the Forest of Dean, Gloucestershire, and known as the Cannop Bridge Level Colliery, and the Royal Forester Colliery, together with the lands, tracts of coal, tramways, plant, chattels, stock, and licenses, &c., thereunto appertaining, for the purpose of carrying on the business of colliery proprietors in all branches. The subscribers are—H. Lyne, 138, Regent-street, 20; J. T. Weston, 20, Spring Gardens, 30; R. T. Roberts, Belmont, 20; W. Schoolbred, 127, Piccadilly, 130; R. Toomer, Reading, 10; G Sillence, Reading. 1; J. Jones, Reading, 1.

THE PALM MILL COMPANY (Limited).—Capital 100,000*l.*, in shares of 100*l.* The usual business of cotton spinners and manufacturers, dealers in cotton yarn, &c. The subscribers (who take five shares each) are—R. Lees, Oldham; T. Smith, Oldham; T. Wallam, Oldham; W. Nolen, Oldham; C. C. Spencer, Oldham; J. W. Leach, Oldham; J. Hood, Oldham.

PELLY AND COMPANY (Limited).—Capital 20,000*l.*, in shares of 100*l.* The business of East Indian and general merchants, ship insurance and general agents and brokers, &c. The subscribers (who take one share each) are—J. A. Bencke, Liverpool; W. Just, Liverpool; J. Tod, Liverpool; E. Barrow, Liverpool; H. McCubbin, Liverpool; F. G. Jones, Liverpool; R. Makin, Liverpool; J. G. Fox, Liverpool; T. S. Hamilton, Liverpool.

THE BRITISH AND FOREIGN FRESH MEAT COMPANY (Limited).—Capital 100,000*l.*, in shares of 1*l.* Killing animals, and preserving their flesh for food by means of a patented process. The subscribers are—G. F. Burbidge, West Malling, 200; R. J. Morison, Arundel Lodge, 200; J. T. Lawrence, North Finchley, 200; O. W. Papmean, Homerton, 20; J. M'Call, 137, Hounsditch, 200; J. Fleming, Lloyd's, 200; E. J. Boyton, 121, Edgware-road, 10.

THE RIVER THAMES STEAMBOAT COMPANY (Limited).—Capital 210,000*l.*, in shares of 10s. and 15s. The usual business of a steamship company on the Thames and elsewhere. The subscribers (who take one share each) are—H. Laver, 11, Pembridge Gardens; E. Carpenter, Northfleet; J. K. Esdail, East Grimstead; F. A. Fryer, Bell-alley; B. Dale, 75, Cornhill; B. H. Ward, Leyton; S. Norman, Uxbridge.

THE TARRANGOWER AUSTRALIAN GOLD MINING COMPANY (Limited).—Capital 120,000*l.*, in shares of 1*l.* To purchase or otherwise acquire, work, and develope gold or other mines, alluvial deposits, minerals, and mining rights situated in Australia; and to adopt and carry into effect an agreement made between R. D. Oswald of the one part, and Sir R. Meade on behalf of the company of the other, for the acquisition by purchase of a gold mine at Maldon, colony of Victoria, belonging to the said R. D. Oswald, upon the terms mentioned therein—45,000*l.*, 25,000*l.* of which payable in cash, and the balance in 20,000 shares. The subscribers (who take one share each) are—R. J. Meade, 20, the Boltons, major-general; T. Campbell, St. Michael's House, merchant; A. Davidson, 119, Queen Victoria-street, paper manufacturer; R. Eustace, Folkestone, colonel; J. McIntyre, Grand Hotel, Member of the Legislature of Victoria; J. Orlebar, 37, Walbrook, colonial agent; J. W. Jeffries, 37, Walbrook, accountant. The following compose the first board—Sir R. Meade, Messrs. Campbell, Davidson, and R. Eustace, the number not to exceed five or be less than three.

PROVINCIAL STOCK AND SHARE MARKETS.

CORNISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine share-dealer, Redruth (May 8), writes:—Our market has not been very active this week, South Frances advanced. 1, and West Frances ½, but Killifreths fell ⅛, and Tincrofts ¼. Very little doing to-day, Dolcoaths, and Carn Breas more offered. Subjoined are the closing quotations:—Carn Brea, 3⅝ to 3⅞; Cook's Kitchen, 13 to 15; Dolcoath, 76½ to 77½; East Pool, 40 to 41; Killifreth, ⅜ to ¾; New Cook's Kitchen, 1¾ to 1⅞; New Kitty, 1⅝ to 1⅞; North Busy, 2s to 3s.; Polberro, 1⅛ to 1¼; South Condurrow, 9 to 9⅛; South Crofty, 3¾ to 4⅛; South Frances, 10⅝ to 11; Tincroft, 4⅜ to 5; Trevaunance, 2 to 2⅛; West Basset, 4⅜ to 5¼; West Frances, 10⅛ to 11¼; West Kitty, 12⅛ to 13; West Polbreen, ⅜ to ⅝; West Poldice, ½ to ¾; West Seton, 4 to 5; Wheal Agar, 17⅛ to 17¾; Wheal Basset, 3⅛ to 4; Wheal Grenville, 6 to 6⅛; Wheal Kitty, ⅛ to ¾; Wheal Peevor, ¼ to ⅜; Wheal Uny, ⅛ to ¾.

— Messrs. ABBOTT and WICKETT, stock and share brokers, Redruth (May 8), write:—The market has been steady this week, and a fair business has been done in Dolcoath, Carn Breas, Tincroft, South Frances, West Frances, and West Kittys. Closing quotations herewith:—Camborne Vean, ⅛ to ¼; Carn Brea, 3⅝ to 3¾; Cook's Kitchen, 13 to 14; Dolcoath, 77 to 77½; East Pool, 40½ to 41; Killifreth, ⅜ to ⅝; New Cook's Kitchen, 1½ to 2; New Kitty, 1½ to 2; North Busy, 2s. 6d. to 5s.; Polberro, 1¼ to 1½; South Condurrow, 9 to 9⅛; South Kitty, ⅛ to ¼; South Crofty, 4 to 4⅛; South Wheal Frances, 10¾ to 11⅛; Tincroft, 4¾ to 5; West Basset, 5 to 5⅛; West Kitty, 12⅝ to 12⅞; West Poldice, ⅛ to ⅜; West Frances, 11 to 11¼; West Seton, 4 to 5; Wheal Agar, 17⅛ to 17¼; Wheal Basset, 3¼ to 4; Wheal Grenville, 6 to 6¼; Wheal Kitty (St. Agnes), ⅛ to ¾.

— Mr. M. W. BAWDEN, Liskeard (May 8), writes:—The mining market remains steady, and shows but little change or variation in prices. Carn Brea, South Frances, Phœnix United, Tincroft, and West Phœnix continue in request. Subjoined are the closing quotations:—Anderton United, ⅜ to ½; Bedford United, 1⅜ to 1½; Carn Brea, 3¾ to 4; Cook's Kitchen, 13 to 13¾; Dolcoath, 76½ to 77; Devon Consols, 3 to 3⅛; East Caradon, ⅛ to ¼; East Pool, 40 to 40¼; Glasgow Caradon, ⅛ to ¼; Gunnislake (Clitters), ¾ to ⅞; Hingston Down, 2s. 6d. to 5s.; Killifreth, ⅜ to ¾; Marke Valley, ⅜ to ½; Old Gunnislake, ⅛ to ¼; Phœnix United, 2¾ to 3; Prince of Wales, ¼ to ⅜; South Caradon (Limited), fully-paid, ⅜ to ¾; South Condurrow, 9 to 9⅛; St. Just United, 4⅛ to 5; South Crofty, 4¼ to 4½; South Devon United, ⅛ to ¼; South Frances, 10⅝ to 10¾; Tincroft, 5 to 5⅛; West Basset, 4⅛ to 5; West Caradon, 1s. to 1s. 6d.; West Frances, 10⅛ to 10¼; West Kitty, 12⅛ to 12⅜; West Crebor, 1s. to 1s. 6d.; West Phœnix, ⅜ to ½; Wheal Agar, 17 to 17⅛; Wheal Basset, 4 to 4⅛; Wheal Crebor, 1⅜ to 1½; Wheal Grenville, 6¼ to 6⅜; Wheal Kitty, ⅞ to 1; Wheal Jane, ⅜ to ½; Wheal Uny, ⅞ to 1.

— Mr. JOHN CARTER, mine sharedealer, Camborne (May 8), writes:—A moderate business has been transacted in Cornish shares this week, and fluctuations have taken place in Killifreth, Dolcoaths, West Frances, Tincroft, and Carn Brea. South Frances has advanced, and Cook's Kitchen declined. Subjoined are the closing quotations:—Carn Brea, 3¼ to 4; Cook's Kitchen, 12½ to 14; Dolcoath, 76½ to 77½; East Pool, 40½ to 41; Killifreth, 14s. to 16s.; New Cook's Kitchen, 1⅝ to 1¾; New Kitty, 1⅜ to 1⅝; South Condurrow, 9¼ to 9¾; South Crofty, 3¾ to 4; South Frances, 10¾ to 11⅛; Tincroft, 4¾ to 5; West Basset, 4⅞ to 5¼; West Frances, 11 to 11⅛; West Kitty, 12⅝ to 12⅞; West Poldice, ⅜ to ½; West Seton, 4 to 4¼; Wheal Agar, 17½ to 18; Wheal Basset, 3⅛ to 4; Wheal Grenville, 6¼ to 6½; Wheal Kitty, ⅛ to ¾; Wheal Peevor, ½ to ¾; Wheal Uny, ⅜ to ½.

MANCHESTER.—Messrs JOSEPH R. and W. P. BAINES, share-brokers, Queen's Chambers, Market-street (May 8), write:—Beyond the continued advance (which in some cases has made rapid strides) in values for undoubted security investments, there is no marked feature to record for the week. Outside those concerns which have participated in the above-mentioned rise the movements are irregular, so far as home railway securities are concerned, and as regards the stocks and shares of rails on the other side of the Atlantic prices have again moved downwards. Foreign and colonial funds have many instances of decidedly higher figures, this being very noticeable in the latter category. Russians and Italians, too, quote sensibly higher. Egyptians contradictory Unified being turn better, and Daira ¾ lower. Argentine Hard Dollar Bonds are ½, and Turkish General Debt ½ lower. Mexican Rails again exhibit rapid and violent fluctuations, having ranged between 38 and 40 to-day, and show a fall on the week of 2¾. The dividend is rumoured to-day at 4 per cent., as against 14 per cent. at same period last year, and this may be a turning point in the history of the company. A fairly respectable aggregate of transactions is reported in the several classes of miscellaneous shares, and quotations have received a good deal of attention. The result, however, is not very decided, taken as a whole, in either direction.

BANKS, though producing a moderate number of dealings, are not so much in advance of other classes as of late. Liverpool Commercial are ¾ up, and National Provincial (new) 1; and Manchester and Salford ¼ down.

INSURANCE shares, compared with the record for some time past, are pretty brisk. Boiler Insurance and Steam Power, and Positive Life show buyers' offers a little better, whilst sellers of United Fire Re-Insurance quote ¼ lower.—Higher: Liverpool and London and Globe, 9/16 to 11/16; Royal (Liverpool), ⅛; and Manchester Fire, 1/16 to ⅛.—Lower: Reliance Marine, ⅛.

COAL, IRON, &c., AND MINING.—This market again exhibits an almost all round decline where prices are moved at all, and several alterations are made. Only one advance is marked—Ashburys, which are ⅛ better.—Lower: Ebbw Vale, ¼ to ⅜; Chillington Iron, ¼ to 5/16; A Knowles and Sons, ⅛; John Brown, ⅛ to ⅜; Palmer's, B, ⅛; and Canadian Copper, &c., 6d.

COTTON SPINNING, &c., are about steady, with not much doing.—TELEGRAPHS: Anglo-Americans mark another smart fall, Ordinary being 2⅛, Preference 3, and Deferred ¾ down. Directs and Globe Preferred are each ⅛ lower, but Easterns mark ⅛ higher.—CANALS are good; Bridgewater are 5/16, and Suez Canal 2¼ higher.—CORPORATION STOCKS, &c., have risen smartly, Liverpool 3½ Per Cent. are 2¼; Manchester Stock Four per Cent., 1¾ to 2¼; and Oldham Debentures, ¾ to 1¼.—MISCELLANEOUS are a little irregular, with no striking variations on either hand.

RAILWAYS.—Irregular changes have occurred during the week, partly caused by the great demand for stocks in consequence of the proposed alteration in Consols interest. The heavy and leading lines have all been in good request, and mark an important rise. The traffic to accrue to the Metropolitan and Metropolitan District lines has induced some large buying in these, and substantial improvement is the result. Great Westerns, although showing a good traffic, lack support. The steadiness noticeable in others is owing to the cause already named, and the influence is felt throughout. In Canadians, Trunks announce another decrease on the joint lines of 6372*l.*, and though less than expected prices are no better, and they finish at the lowest. Americans had begun to recover, but the bank failures and other rumours have brought about another serious decline.

NEWCASTLE-ON-TYNE.—Mr. S. N. CHALLONER, stockbroker (May 8) writes:—Bolckow (fully paid), at 18⅜ to 18½, are without change, 12*l.* paid, at 10½ to 10⅝ are ⅛ higher; the Five per Cent. Preference, at 19⅜ to 19⅝, are ⅛ higher. Barrow Steel Ordinary remain nominally 6 to 7; the Six per Cent. Preference are 9, buyers, 9¼ sellers. Consett Iron, at 18¼ to 19¼, are ¼ lower. Consett Spanish Ore, at 55s. to 60s., are without change. Palmer, A, at 25 to 25½; B at 14⅞ to 15⅛; Pelsail Coal, 11 to 12; Sir W. G. Armstrong-Mitchell, 120 to 1 1; West Cumberland Iron, 14⅞ to 15⅛; Earle's shares are at 15 to 15⅛; Teesside Iron Preference, 30s. to 31s. 3d.; Ordinary, 10s., sellers; Tyne Forge, 7⅛, sellers; C. Cammell and Co., 67½ to 68; John Abbots, 45 to 47. John Brown, 57⅜ to 57⅝, are ⅛ lower; Ebbw Vale, 4⅞ to 5⅛, are 3/16 lower; Panuelillo Copper, 5⅛ to 5¼, are ⅛ lower; Mason and Barry, 12⅝ to 12¾, ⅛ higher; Rio Tinto, 20⅜ to 20½, and Tharsis, 6⅛ to 6⅜, are both unchanged. North-Eastern Bank, 6 to 6⅛, are ⅛ lower. Newcastle Water Stock, 195 to 200, shows a further rise of 5 per cent., being a rise of 15 per cent. in less than three weeks. Lawes', 4½ to 4⅝, are ⅛ lower; Langdales, 3 to 3⅛, are ⅛ lower. Sadler, Forbes, Abbott, and Co., 13, are 14½ to 14¾; the new shares (3*l.* paid) are par to 1 prem. German Linoleum shares (7*l.* paid) offered at 2 prem., and Darlington Iron Preference at 4 per share (5*l.* fully paid).

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, stockbroker and ironbroker (May 8), writes:—During the past week the market has been quiet, but prices are steady. The money market remains easy, but trade is still dull and profitless, without much prospect of improvement. There have been one or two bank failures, but they have not as yet affected the markets generally.

In shares of coal, iron, and steel companies there has been very little business doing. Cardiff and Swansea are at 45s. to 55s.; Clyde Coal, 53s. 6d.; Ebbw Vale, 5 to 5¼; and Wigan, 30 to 35.

In shares of copper concerns prices are generally better, owing to the firm nature of the market for copper. Tharsis (warrants) have been sold about 6⅞, and the registered shares 6⅛ to 6¼. Arizonas are at 12s. 6d. to 13s. 6d., and Michipicoten 5s. 6d.

In shares of home mines business is also quiet. Anderton are at 10s. to 12s. 6d.; Carn Brea, 70s. to 75s.; Carn Camborne, 10s. 6d.; Cook's Kitchen, 13 to 14; Camborne Vean, 2s. to 4s.; Duchy Peru, 18s. 6d.; Devon Great Consols, 67s. 6d. to 72s. 6d.; Drakewalls, 4s. to 6s.; East Wheal Rose, 13s. to 15s.; East Craven Moor, 1s. 3d.; Frongoch, 6s. to 8s.; Gunnislake (Clitters), 12s. 6d. to 17s. 6d.; Great Laxey, 10⅝ to 1 ⅛; Hingston Downs, 2s. 6d.; Killifreth, 16s. to 17s.; Mounts Bay, 4s. to 6s.; New Caradon, 2s. 6d. to 3s. 6d.; Old Shepherds, 15s. to 17s.; Parys, 1s. 9d.; Parkas, 1s. to 2s.; Phœnix United, 50s. to 55s.; Polcrebo, 7s to 9s.; Sortridge, 5d.; South Caradon, 5s. dis to par; St. Just United, 55s. to 65s.; South Crofty, 70s. to 80s.; Tregontrees, 2s. 6d.; Treaveans, 8s. to 10s.; Tankerville, 9d.; Westminster Consols, 12s. 6d.; West Cornwall, 20s.; West Kitty, 12⅛ to 13; West Phœnix, 7s. 6d. to 10s.; West Poldice, 10s. to 12s. 6d.; Wheal Basset, 60s. to 70s.; Wheal Jane, 1s. 6d.; Wheal Kitty, 9s. to 11s.; Wheal Silvers, 7s. 6d. to 12s. 6d.; and Wheal Uny, 10s. to 12s. 6d.

In shares of gold and silver mines prices are steady. Montanas have been sold from 58s. to 60s. 6d. Richmonds and United Mexicans both firmer. Argenta Falls are at 16s.; Antioquia, 3s 6d.; Balkis, 20s. to 30s.; Brazilian, 2s. 9d.; Cankim Bamoo, 5s. to 7s.; Chile Debentures, 90 to 100; Colombian Hydraulics, 6s. to 7s.; Colar, 2s. 6d; California, 12s. to 14s.; Denver, 2s. to 3s.; Flagstaff, 1s. to 2s.; Frontino, 15s. to 20s.; Gold Hills, 8d.; Great Zaruma, 4s. to 6s.; Indian Consolidated, 1s. to 2s.; Indian Glenrock, 2s. to 3s.; Kapanga, 2s. 9d. to 3s. 3d.; La Plata, 6s. 6d. to 7s. 6d.; Lisbon-Berlyn, 13s. to 15s.; Mysore, 5s. to 7s.; New Caliao, 3s. 6d. to 4s. 6d.; New Potosi, 9s. to 11s.; Rossa Grande, 1s. 9d.; Victoria, 13s. to 14s.; and West Caliao, 5s. to 6s.

In shares of miscellaneous companies the principal alteration is a decline in Nobel's Explosives to 19. Oil companies' shares steady. Elmore and Company (Debentures) offered at 43. Home Mines Trust are at 13s. 9d. to 15s.; Lawes' Chemicals, 4¾ to 5¼; and Odam's Manure, 9 to 10.

EDINBURGH.—Messrs. THOS. MILLER and SONS, stock and share brokers, Princes-street (May 8), write:—North British Railway stock has been depressed during the past week, but has recovered nearly the whole of the fall. Caledonian is unchanged. Great North has fallen 1½ per cent. English railway stocks have been more buoyant, and in most cases have improved. A strong demand has sprung up for debentures and preference stocks, and in some cases advances of as much as 5 per cent. have taken place during the week. Union and Clydesdale Banks have been weak. British Linen has advanced 20s. North British and Mercantile Insurance shares have receded from 27½ to 27. Standard Life have risen from 49 to 50. Colonial Investment Companies show very little change. Prairie Cattle shares, first issue, have improved from 6⅜ to 6½, Swan Land and Cattle from 6½ to 6¾. Arizona Copper shares at 12s. 6d. show a decline of 6d. Tharsis have improved from 6*l.* 1s. 3d. to 6*l.* 3s. 6d. In Oil shares Burntisland have changed from 19½ to 19 1/16, Lanark from 7¾ to 7 11/16. Midlothian have been depressed, and have gone from 7 9/16 to 6⅞. Edinburgh Tramway shares have receded from 10 to 9⅝. A sudden demand for Assets shares has sent them up from 8 1/16 to 8 11/16.

Mining Correspondence.

BRITISH MINES.

BEDFORD UNITED.—H. Trezise, May 6: There is nothing new to repor on the north lode.—McCallan's Engine-Shaft, Bridge Lode: In the 75 east and west the drivages are by the side of the lode to secure progress. The lode east and west is yielding water freely. In the 62 east the lode is improved in appearance, and will produce 1 ton of good ore per fathom. We are evidently on the verge of a shoot of ore in this end. The stopes (three in number) behind the end are worth 7*l.*, 6*l.*, and 8*l.* per fathom each. There can be little doubt about our having cut the cross course in the 62 west. Since my last report we have been driving south and with the cross-course, and the lode for the whole distance (8 ft.) is composed of capel, mundic, and black oxide of ore of good quality. I shall continue driving south for some time to come. The stopes behind the end are not so good for ore; worth 5*l.* and 6*l.* per fathom each. In the 42 east the lode is unproductive. Three stopes in the back and bottom of the 42 are worth 9*l.*, 10*l.*, and 13*l.* per fathom each. I may say, in conclusion, that when the mine is properly opened and the ground made available for taking away at the cheapest rate, the shareholders will be amply rewarded for their outlay.

CASHWELL LEAD.—John Peart, May 3: Fortnightly Report: The drift in copper hazle west end is a little easier to work, some good ore, but not so rich as when last reported. The vein is 2½ ft. wide, of nice mineral, and is worth 1½ ton of lead ore per fathom. The vein in heading, next to the drift forehead in the above stratum, is 2½ ft. wide, and a good deal of mixed in it, and from appearance is likely to carry ore up to the top of the sill; it is worth at present 1¼ ton of ore per fathom. The heading east of rise is all worked out as high as will pay for the 6 fms. in length, and have set the men on this week to take the vein off drift side down to drift sole, and so far is yielding good ore. The drift in copper hazle going east is still very hard; there is a little more vein, but no ore to value.

CREIGIOG.—H. Hotchkiss, May 7: I have no change to report in the workings this week.

CWM DWYFOR AND BRYNARIAN (Brynarian Mine).—J. Davies, May 8: We are pushing on with the level, and have a fine looking lode.

DEVON FRIENDSHIP.—F. R. W. Daw, W. Gill, May 8: We are pleased to inform you that everything here is going on satisfactorily. A full report on this mine shall be sent you next week.

D'ERESBY MOUNTAIN.—Wm. Sandoe, May 7: The accumulated stuff, with what we are breaking daily, gives us a full supply of stuff for the wash-floors, and will do for some days to come. In the levels driving out north and south from the top of the rise, which we may in future call No. 5, the lode in each end continues to show a nice mixture of lead about 4 ft. wide, the width of the levels, worth in each end about 12 cwts. of lead ore per fathom. Both these points will no doubt open out some good stopes when get a little further off from the shaft, and cut through more of the lode towards the hanging side. In the driving out south above this point the lode has rather improved during the week, and will now yield from 15 cwts. to 1 ton of lead ore per fathom; this point also will lay open some good stoping ground in going south, which is all new ground. We have now nearly finished widening the rise above No. 4, which was rather too small for the shaft, and hope to start timbering the shaft on Monday next.

DRAKEWALLS UNITED.—M. Bawden, May 8: There is nothing new in the mine to which to call your attention since our setting report of last week. We are beginning to feel the benefit of our increased number of tributers, and can keep our steam stamps longer at work daily than we have hitherto been in a position to do, and shall consequently expect to have larger returns of tin.

EAST BLUE HILLS.—S. Bennetts, W. K. Mitchell, May 7: The shaft is now 6 fms. below the adit. The lode in the eastern end is not quite so wide as it has been, and the value is from 8*l.* to 10*l.* per fathom. In the adit east end the lode is improving, and of a most promising appearance; it is 2½ ft. wide, and worth 6*l.* to 7*l.* per fathom. The two stopes now at work are without much change.

EAST CARADON.—W. George, J. Kellow, May 7: Monthly Report: To drive the 130 west from western cross-cut, on south lode, which, we are pleased to say, has further improved, being 2½ ft. wide, of a most promising appearance; at present yielding fully 1 ton of ore per fathom. We have now nine men employed here with the boring-machine, for the purpose of urging it on as rapidly as possible, believing we shall soon get a further improvement. To drive the 130 west, on south branch, by two men, at 6*l.* per fathom. Here the ground has slightly improved, and the branch continues to yield some good quality copper ore. The stope above the 70 is suspended, with the view of working it on tribute. We have four tribute pitches, set to eight men at 13s. 4d. in 1*l.*

EAST BOTALLACK.—T. Trahair, May 7: The 10 fm. level driving east from engine-shaft is still opening tribute ground. The 10 driving west from engine-shaft is looking just the same as last reported on. The 20 driving east from engine-shaft is looking better than it did in the 10. Should this run of tin ground be met with in the 30 as good as it is now in the 20 I do not hesitate to say we shall not want to make any further calls on our adventurers. We shall commence to sink the shaft as quick as possible, this being the most important part in the mine. The adit level driving east from engine-shaft is looking better since driven east of cross-course.

EAST WHEAL ROSE.—W. Skewis, T. Doidge, R. Gill, May 5: Penrose: We are progressing and sending the castings for the No. 3 plunger pole, which will soon be fixed, and the necessary preparations for deeper drainage will be pressed forward rapidly.—North Wheal Rose: All the materials required for fixing the plunger and drop lift below the 65 are promised to be here not later than Wednesday mid-day; in that case we shall be able to complete the work to the shaft, and set the 100-in. engine to work on Friday morning, and will wire you result.

— Telegram, May 9: We have started the 100-in. engine this morning; it went off first class, and is working splendidly.

GAWTON.—G. Rowe, May 3: In the 117 east the lode is 10 ft. wide, of a promising character, and yielding 5 tons of arsenical mundic per fathom, with good stones of ore. Nos. 1 and 2 stopes in the back of the 117 east is yielding 6 and 7 tons of mundic and ore per fathom. The lode in the rise in back of the 105 east is 4 ft. wide, and yielding 6 tons of mundic per fathom. We have been principally engaged taking down the lode in the 95 east within the past week, which is laid open 5 ft. wide, and yielding 6 tons of mundic per fathom. The rise in the back of the 82, west of shaft, is yielding 7 tons mundic per fathom. The lode in the 82, east of shaft, is yielding 3 tons of mundic per fathom and good quality copper ore. All other points continue without change.

GLASGOW CARADON CONSOLS.—W. Taylor, W. J. Taylor, May 5: Since last report we have fixed drawing-lift from the 126 to the 114, which is working well We are now making good progress in driving the 126 cross-cut towards Harvey's and south lodes. We have just cut a small branch and dropper from Harvey's lode, containing some rich yellow ore, which shows the congenial nature of the ground. We are pushing on to the lodes as fast as possible. We shall expect to cut other branches as we near the lode and drain it, so as to commence sinking in bottom of the 114. The cutting these lodes in this deeper level (the 126) is most important, and will soon come off now, and from the nature of the ground we have every confidence as to the result. No change of importance in either of the other bargains since our last report. The same will apply to the tribute pitches.

GOODEVERE.—R. Knott, May 7: The lode in the adit end east and also in the stope in back of this level is presenting a very good appearance; the more I see of this lode the more I am convinced that it will ultimately open up a splendid properly. The stamps are being kept supplied at present, and every effort shall be made to prepare the next parcel of tin for market as soon as possible.

GREEN HURTH.—Jas. Polglase, May 1: The 44 end north is worth 1½ ton per fathom. No. 1 stope is worth 2½ ton per fathom. No. 2 stope is poor. No. 3 stope is worth 2 tons per fathom. No. 4 stope is worth 4 tons per fathom. No. 5 stope is worth 2 tons per fathom. No. 6 stope is worth 3 tons per fathom. No. 7 stope, Standage level, is worth 3 tons per fathom. In driving north at the 30, above the random of the 30 proper, we have cut water and very loose ground, and an excellent vein of lead, worth about 3 tons per fathom. As the ground is very troublesome, and also inconvenient to work, we have suspended operations at this point (it only being a trial level), and shall commence driving the 30 proper by four men, so that we can take away the stuff in the regular way. The adit level east will be secured to the end this week. Dressing going on well.

GREAT LAXEY.—F. Reddicliffe, May 7: We are unable to speak of any change of consequence in the ends of the deep mine. The 271 end still shows a wide and strong lode, but without ore. There are strings and spots of ore in the 235 end south, but of no importance, except that they may lead to something better. The joint rise and stope in the roof of this level is worth 8l. per fathom. The joint drive and stope below the 190 north is somewhat improved, and worth 20l. per fathom.—Dumbell's: There is a strong lode in the 243 end, producing 1 ton or so of blende per fathom, but it is not yet far enough advanced for the first main run of ore ground in the level above. There has been a very good lode in the 230 north, ranging from 30l. to 40l. per fathom, but just at this moment it has given place to more spar, and the value is 20l. per fm. In the 185 the ground is disordered for the last 3 fathoms or so since the end passed through a slide, and the ore is in small bunches; we expect the end to be clear of these disturbances very shortly. We have resumed the driving of the 170 end, the value of the lode there being at present 12l. per fathom. The adit end has recently produced stones of ore, but we shall be pleased to see a larger and more congenial lode. There is no other change.

HEALEYFIELD.—J. Trelease, May 2: The pumps have arrived at Whitehall siding, and we are now busy getting them on to the mine. The old mine still continues to yield its usual quantity of lead ore. Chalder's stope in bottom of main incline has improved, now worth 1 ton of lead ore per fathom. There is not much change to notice in any other of the tribute bargains. We have only 19 pickmen employed in the old mine, who all work on tribute at prices ranging from 38s. to 42s. per bing.

HINGSTON DOWN.—Thomas Richards, May 7: In the 52, east of the engine-shaft, the lode is composed of capel, quartz, mundic, &c., and occasional good stones of copper ore, with a mixture of tin. The south cross-cut towards the No. 2 lode is extended 34½ ft., the ground is still hard and the progress slow.

KILLIFRETH.—J. Michell, J. Tamblyn, May 8: Engine-Shaft: The lode in the 90 end west is 1½ ft. wide, with a very promising appearance. In the 70 end west the lode is 7 ft. wide, worth 12l. per fathom, having communicated with the winze from the 50; we are now stoping east and west of the same, where the lode is worth 12l. per fathom. The lode in the 50 end east is 2 ft. wide, letting out a large steam of water, with a kindly appearance. In the 30 end east the lode is 9 in. wide, but unproductive.—Hawke's Shaft: In the 50 end west the lode is 2 ft. wide, worth 7l. per fathom. A stope in the back, just behind the end, is worth 15l. per fathom. The other bargains are much the same as last reported.

MELLANEAR.—John Gilbert, May 7: The 30 cross-cut south of Gundry's shaft has passed through some branches of mundic from 2 to 6 in. wide, which which are dipping north about 3 ft. in 1 fm. The ground in going forward is very promising in appearance and easy for driving. There is nothing new in the 70 cross-cut driving north from the main lode. The ground is still mineralised and letting out a little water. The south part of the lode in the 100, west of Gundry's shaft, is 4 ft. wide, and yielding 1½ ton of copper ore per fathom. The rise in the back of the 110, west of shaft, is yielding 1 ton of copper ore per fm., and some saving work for tin, but the men are only carrying a part of the lode. In the 110, east of shaft, the lode is 4½ ft. wide, and yielding 2 tons of ore per fathom. This level is getting very near the cross-course, about which we had some good ore ground in the levels above. The lode in the 120, east of shaft, is 3 ft. wide, yielding 1 ton of ore per fathom, and the ground is getting easier for driving. We purpose commencing a rise in the back of this level, which will ventilate, and also open up some tribute ground. In the 120, west of shaft, the lode is 5 ft. wide, and yielding 1 ton of ore per fathom. The lode in Gundry's engine shaft, sinking below the 120, is 5 ft. wide, still yielding 3 tons of ore per fathom, and presenting a very kindly appearance. There is no alteration in any other part of the mine.

MID-DEVON.—J. Neill, May 3: A Shaft: A surface-rod broke on Tuesday morning which delayed the pumping six hours. Influx of water gradually falling off; it still kept drained to the bottom of the 80.—C Shaft: The stope in back of the cross-cut north from extreme of the 50 east, worked by four men, has fallen off in the yield of ore to 1 ton per cubic fathom; strata is still strongly stained with copper, and intermixed with chlorite, quartz, and horn-blende, which is an indication of being near to other deposits of ore.

MOUNTS BAY CONSOLS.—W. Argall, T. Job, May 3: Since last report we have dropped the lift below the 20, cleared the two plats, and shaftmen have been engaged putting in permanent footway and other work in the engine-shaft. In the 20, east of shaft about 10 fms., there is some stuff in the level which the shaftmen are clearing as fast as possible. After this is cleared we hope to report seeing good tinground in this direction. In the 20, west of engine-shaft, we have set a tribute-pitch. We are glad to report the water has lessened, and we have detached the small lifts. The winze below the adit level on tribute is worth about 8l. per fathom. The other tribute pitches are looking just as usual. We have commenced to dress and stamp another parcel of tin.

MOUNT CARBIS.—W. Tregay, May 8: The lode in bottom of 50 is opening very well and supplying valuable quantities of tin. There is no change to report.

NEW CARADON.—N. Richards, May 7: We expected to have reached the bottom, or 50 fm. level, ere this, but our progress has been somewhat retarded owing to the bottom of the shaft being crushed and full of debris, &c.; but we hope to secure the same and reach the bottom of the level to-morrow, the water having been now drained 3 ft. below the back of the same. When this is done we shall have to clear and secure the levels, as we find most of those driven on the cross-course are much crushed and full of attle, &c. The branch we are driving on east of cross-course, at the 20, is at present well-defined, carrying a good wall, and is producing saving work for copper, and looks as it would further improve.

NEW LANGFORD.—T. Gregory, May 7: The lode in the 23, east of Malachi shaft, is fully 2 ft. wide, composed of mundic, prian, a little silver-lead, and veins of carbonate of iron containing silver ore. The lode in the pitch west of shaft is producing more blende at present, with soft quartz and low class silver-lead. We are opening a new stope in back of the 20 near the engine-shaft, in which the lode will produce 5 cwts. of blende, and some saving work for silver-lead per fathom. There is no other change to advise you of. Machinery all working well.

NEW KITTY.—W. Vivian, May 8: At Thomas's shaft, sinking below the 20, we are meeting with small branches, producing tin dropping down on the lode. From the present appearance of the lode I have no doubt we shall have tin in depth.—Engine-Shaft: In the cross-cut driving north at the 50 no change to notice since last report.

NEW TRUMPET.—R. Quentrall and Son, May 3: Wheal Valls Lode: We have recently put the portable engine to work and fixed plunger lift at the 28 with the necessary rods, bobs, &c. We are pleased to say it is working very well and keeping the water easily. We are now in full course of sinking Trenethick shaft below the 28, by nine men, and are pushing it on as fast as possible. The lode contains tin throughout, but as we have a cross-course in the shaft it is naturally a little unsettled at times. As we get deeper we may reasonably calculate on having a more regularly defined and productive lode. In the 28 east the lode is producing stamping work for tin. In the 28 west we have had a very favourable lode, and it is now worth 12l. per fathom, and is opening up profitable stoping ground. We have sunk a winze from the 16 to this level, which has given us good ventilation and laid open a valuable piece of stoping ground. We are stoping east and west of this winze, where the lode is worth from 10l. to 12l. per fathom for copper ore. The lode in the 16 driving west is now producing some very rich grey copper ore, and is looking very promising to further improve. We have opened up some very good stoping ground at this level. We are pleased to say we have this week sold 194l. 1s. 2d. worth of copper ore, a portion of it realising as much as 19l. 5s. per ton, and our returns are likely to considerably increase in future particularly after we reach another level.

NEW WEST CARADON.—N. Richards, May 7: There is no change to notice in the 38 cross cut driving south of Hallett's shaft, nor do we expect any until we get through the elvan course referred to in a former report. No. 5 lode, however, is much improved, and is now producing some splendid stones of grey copper ore, and still improving. The lode is fully 3½ ft. wide with every indication of further improvment. I will, however, keep you advised as to this.

NORTH BLUE HILLS.—S. Bennetts, May 7: The old workings in the shallow adit on the north lode are not yet sufficiently cleared out to ascertain the bearing of the lode. The dip, however, appears to be south.

NORTH GREEN HURTH.—Jas. Polglase, May 1: We are driving the south level on the course of the vein with all speed by six men. The other men are raising stone, excavating ground for wheel and air machine. No change in Hospital property.

NORTH PENSTRUTHAL.—Stephen Davey, W. Polkinghorne, May 8: Highburrow shaft is being sunk as rapidly as the nature of the rock will permit. The timbering has been a drawback to the greater speed heretofore obtained; but we hope, from the present appearances of the ground, that it will not require much further timbering. We have discovered to-day a branch, or lode, coming into the shaft from the south; from a sample assayed we find it produce tin; shall see more of this in the course of a week or two. The lode in the 150 west end is 3 ft. wide, producing good stones of tin, and improving in appearances. The other points are without change to remark.

OLD GUNNISLAKE.—W. Skewis, R. C. Seccombe, May 8: In the adit level west we have met with a crossing which has somewhat disordered the lode; this, however, we think only temporary. In the end eastward on the caunter the footwall rock is much broken up, and water is flowing freely from this direction; this we consider a favourable indication of our near proximity to the Ding Dong lode north. There is no change to report in the rise on the main lode. We have opened some few feet on the lode intersected in the cross-cut south, mentioned in our last report, and find it about 1½ ft. wide, composed of quarts, tungstan, arsenical mundic, and copper ore, but not to value; the lode has much improved in character and doubled in width since commencing to drive on its course. We therefore hope that by extending some distance on its course it will prove a valuable lode.

OWEN VEAN AND TREGURTHA DOWNS.—William Derry, Henry Prin, May 8: Everything underground is going on well, and the men are making good progress in sinking the engine-shaft. We are making preparation for stoping the back of the 17, west of Bray's shaft, where the lode is 10 feet wide, producing excellent work for tin throughout. Our surface operations are being pushed forward in order to start the stamps at the time promised. Our batch of tin from the Carbis stamps will be sold to-morrow, and exceed the last in quantity.

PHŒNIX AND WEST PHŒNIX UNITED.—John Truscott, May 8: There is scarcely any change at the above mines since the report that appeared in the Journal of April 26, excepting the 20 end, west of new engine-shaft, which has improved, and is now worth 25l. per fathom. We sold yesterday a fortnight's yield of tin—21 tons 3 cwts. 1 qr. 25 lbs., at 49l. 2s. 6d. per ton.

PRINCE OF WALES.—S. Roberts, May 7: Fair progress is being made in the rise in the back of the 102 east, in which the men are now taking down the lode, which is large and producing excellent work for tin, in order to put in a stull to ventilate the rise, and make it more convenient for working. In the 102 fm. level west we are driving by the side of the lode, which appears to be improving in size and value. In the 90 west we are still driving in the silver lode, and purpose taking down the main lode in about a week's time, which when last taken down was 3 ft. wide; worth 3 tons of copper ore per fathom and some splendid tinstuff. The winze sinking in the bottom of this level by the side of the lode is down about 8 fms., and have about 2 fms. more to hole; some good stones of copper ore have been taken from the lode to-day. We intend to bore a hole through this week to let down the water. The stopes are without change since last reported.

POLGREBO TIN.—W. H. Martin, May 7: The points in operations are opening up satisfactorily, and on Saturday next I will send you a full monthly report as usual. Yesterday we sampled a parcel of tributers' tinstuff, to-morrow is the day of sale.

ROMAN GRAVELS.—Arthur Waters and Son, May 8: The 125, north of winze, north of new engine-shaft, is in a lode 4 ft. wide, worth 3 tons per fathom. The 125, south of shaft, is in a lode 7 to 8 ft. wide, worth 20 to 25 cwts. per fm. The 110 south is 2 ft. wide, spar and ore, worth 1 ton per fathom. We are passing through the twitch here corresponding to that seen in the level above, south of which the main run of ore was found. The stopes in back of said 110, north and south of Blockley's winze are worth together about 7 tons per fathom. The 95 south is in a lode 2½ to 3 ft. wide, worth 2 tons per fathom. The five stopes in this level, north and south of Morris's winze, are worth together 12 tons per fathom. Three stopes in same level, south of Robert's winze, worth 7 tons per fathom. The 80 south is in a lode 3 ft. wide, worth 2½ tons per fathom and is improving. The three stopes in back of this level following the end are worth together 9 tons per fathom. We have to-day sampled 225 tons lead ore for sale next week.

RUSSELL UNITED.—J. Bray, May 8: Last Saturday being our pay-day, when we set Matthew's engine-shaft, to sink below the 97 fm. level by 12 men stented 5 fms., at 20l. per fathom; the lode in this shaft is 3 ft. wide, spotted with copper ore and mundic.—Stephen's Engine-shaft: The cross-cut to drive south at the 45 to six men stented the month, at 6l. per fathom. I hope to reach the lode in the cross-cut south the early part of next month.

SOUTH CONDURROW.—Wm. Rich, Wm. Williams, H. King, May 7: The stope in the back of the 93, east of King's shaft, is worth 12l. per fathom. The 80 end east is worth 6l. per fathom. The stope in the back is worth 10l. per fathom. The 80 cross-cut, north of Plantation shaft, is in harder ground than usual. The 80 end west is without alteration to notice. The 70 end, east of King's, is worth 8l. per fathom. The lode in the back is worth 12l. per fathom. The 60 east is worth 7l. per fathom. The stope in the back is worth 15l. per fm. The 50 end east is worth 10l. per fathom. The stope in the back of this level is worth 12l. per fathom. The 40 end, east of engine-shaft, is worth 12l. per fm. The 30 west yields good stones of tin. Wood's lode, in the 20 east, is unproductive. We have suspended operations here, and set the men to drive the 20 end west on the flat lode, which is yielding saving work for tin. Two stopes in the back of the 20 are worth 8l. and 12l. per fathom respectively. There is no material alteration in the different points of operation at Marshall's shaft. We are putting in new nozzles and steam valves to the stamping engine, as well as repairing the calciner and doing other and necessary repairs to the stamps generally. These surface works (as far as stamping is concerned) have been idle since Monday morning, but we hope to be in full working order to-morrow, and shall do our utmost to make up for these unavoidable delays.

SOUTH DARREN.—John Mitchell, May 8: The lode in the 130 west still continues wide and looks very well, although very hard for driving, at present worth 1¾ ton of silver-lead ore per fm. We broke a little of the lode in the eastern end of this level to-day; it is rather poor, but we expect a favourable change here soon. The stopes throughout the mine are looking very well; the four being worked are worth together 6½ tons of silver-lead ore per fm. On Saturday last we sent out samples of 60 tons of copper. We have at present a fair supply of water for all purposes.

SOUTH DEVON UNITED.—Wm. Hooper, May 8: In the lode in the 120, west of Martin's shaft, the part carrying is of a very promising description, composed of spar, mundic, and copper ore, worth 16l. per fathom. The distance driven during the past week is 1 fm. The north branch behind the above end is producing some very good quality copper ore, and is without any particular change since last reported on. The lode in the adit level maintains its size, and is of a promising character for the production of copper ore. The lode in the winze sinking below the above adit level continues to look exceedingly promising, containing beautiful gossan, fluor-spar, with stones of mundic, black, and yellow copper ore.

SOUTH PENSTRUTHAL.—S. Davey, May 8: At Walton's engine-shaft the ground has changed, and is harder from a capel coming into the shaft from the south. This we hope soon to get through, when greater speed will be obtained. In the Flat-rod shaft, sinking below the 150, we are meeting with branches coming down from the south varying from 4 in. to 8 in. in width, composed of quartz, some of which I had sent up yesterday, and find it to be thickly impregnated with rich yellow copper ore. Every effort is being made to reach the 170 as quickly as possible, where we hope to meet with a rich deposit of copper. No other change worthy of remark.

STANDARD LEAD.—W. H. Borlase, May 8: Setting Report: The 45, to drive west of engine-shaft, at 6l. 5s. per fathom; lode poor for mineral, but looking very promising. No. 1 stope, in the back of this level, at 5l. 10s. per fathom; lode worth 3 tons of lead per fathom. The intermediate level, between 33 and 45, at 6l. per fathom. We have only just started this from the end of the winze, but I am pleased to say we have already cut into a very promising lode, taking off very fast in the footwall. We shall be able to say more about it next week. So far as seen it is worth 15 to 20 cwts. of lead and blende per fathom. No. 1 stope, in the back of the 33, on the north and south lode, at 3l. per fathom; lode worth 25 cwts. of lead and blende per fathom. No. 2 stope at 3l. 10s. per fathom; lode at present only producing saving work for lead and blende. We are expecting this stope to hole to a winze sunk below the 23, and, when done, will facilitate the stoping of good orey ground standing north of the winze. A rise in the back of No. 3 stope, at the 23, at 5l. per fathom; for 9 ft. long worth 35 cwts. of lead and blende per fathom. The rise in the back of this level is suspended for the time being: the men are engaged cleaning off a stope preparatory to puting in a stull to lodge the waste from the rise, instead of winding it to surface. As soon as this is done the rise will be resumed, and I hope to be in a position to start the new shaft from surface to come down on the rise. When this communication is effected, it will only be a question of time to lay open the mine north and south of this shaft in a miner-like manner to make it a profitable concern, even at the present low price of lead and blende.

TREVAUNANCE UNITED.—W. Vivian, May 8: The 55, driving east of cross-cut, lode worth over 20l. per fathom for copper ore. I purpose to sample a parcel of copper ore on Tuesday, May 20. Our tribute ground continues to produce the usual quantity of tin.

WEARDALE.—James Blenkiron, May 3: Grove Rake: In Rake level the main forehead continues broken, a lead has come up from the north side with more kindly spar. We have turned the level a few degrees southward, where we hope to meet with more favourable ground. The foremost rise is a little more promising, worth 8 cwts. of ore per fathom. We have no change in the north cross-cut, and nothing new to report in the middle drift, east or west. We are pushing forward the opening of the water level, down the Whimsey, westward from shaft, and we have arranged for two men and woodmen to repair the coal sill drift east from shaft; five new bouse teams will be completed this week. We have levelled the water-course to Rodda enclosures, and set same to cut on contract, and also reservoir in the burn above the Rake level. All dressing is progressing favourably.—Bolt's Burn: Coal sill drift vein is looking very promising, and worth fully 2½ tons of ore per fathom, with good indications.—Killhope—Killhope Head Vein: The coal sill drift east is a little poorer, worth at present 25 cwts. per fathom. At Trent level west we have cut the main vein, and holed to the old works from Whimsey level about 2 ft. above Trent level roof. South cheek not yet proved; the stope is 7 ft. high, and worth 35 cwts. of ore per fathom. We purpose cutting this stope through to sump some 8½ fms. west on tribute, then sinking sump to prove Quarry hazle. The said sump is sunk to the top of the Quarry hazle on high cheek; the vein has about 10 ft. throw, and we hope soon to prove Quarry hazle. The stopes generally in the Killhope Head vein and flats are looking more promising. We have arranged for the men to commence sinking the shaft to communicate with top sill rise; we surveyed the same last week. We have no change in the stopes in the Old Moss vein. The whimsey was completed and commenced drawing work up Tweed sump last week. We shall push the clearing of the workings in Old Moss, and commence driving main ends east and west as soon as possible, also the cross-cut to the middle Grove vein. The east end of Old Moss at present is the most promising part of the mine. We have very little bouse in the teams or at surface at Killhope. Machinery in good order.

Green Laws: There is not any change in Jackson's drift (top level), south lead; the vein is kindly, and worth 6 cwts. of ore per fathom. Watson's air drift continues quick, but no ore to value. Lowe's drift east is a little easier to drive, the vein is more kindly, but with no material improvement yet for ore; we are about 8 fathoms short of the rise from Quarry level.—Quarry Level: The rise towards Lowe's drift vein has improved in strength, about 2 ft. wide, composed of rider and fluor-spar, with spots of ore. The rise is 7 ft. short of being up to the random of Lowe's drift; we are pushing this as fast as possible, but the ground is extremely hard and slow to work, and the ventilation bad.—Dent's Level: The end is the same as last week, worth 10 cwts. of ore per fm. There is no change in the ore workings or tribute pitches, some poorer and others slightly improved; upon the whole without change, either in Green Laws or Dent's levels. Dressing is making fair progress, considering the poor quality of the bouse to treat. We have a fair supply of water. We had severe weather with snow last week.—Burtree Pasture—Donaldson's Level: The end is a little easier to work and rather narrower, and generally spotted with ore; we are daily expecting an improvement, as we are approaching the place where it was rich in the sills above. Coatsworth stope, above the said level, has improved, worth 35 cwts. of ore per fathom. There is no change in the Nattrass Gill drift. The ore stopes above Millburn's level are a shade better for ore, but with not much change to note.

WEST CARADON.—N. Richards, May 7: Some of the men who were rising in the back of the midway level are now engaged in driving the 38 west on Gilpin's lode, which has a promising appearance, producing a little copper ore. The rise and stopes in the back of the adit level on this lode will yield together fully 3½ tons of copper ore per fathom. A stope in the bottom of this level will yield about 1½ ton of ore per fathom. We shall sample next Monday computed 90 tons of fair quality copper ore.

WEST CREBOR.—John Andrews, May 7: The lode in the engine-shaft sinking below the 80 is from 3 to 4 ft. wide, composed of quartz, capel, mundic, and a little good quality copper ore. We commenced to take down the lode in the 80 west yesterday, and so far as taken down it is 4 ft. wide, composed of quartz, capel, mundic, and yields good stones of copper ore; a strong, masterly-looking lode.

WEST GODOLPHIN.—T. Hodge, F. Hodge, May 7: We have nothing new to report this week. Friday next being setting day, a full report will be sent you.

WEST POLBREEN.—Wm. Vivian, May 8: The 40, driving west on the flat or West Kitty lode, is producing stones of tin, but not to value at present. We are now engaged in getting the water out of the engine-shaft, and intend to resume the sinking next week.

WEST KITTY.—Wm. Vivian, May 8: In the 84, driving east of cross-cut, the lode is worth 10l. per fm. In the 80, driving east, the lode is worth 3l. per fm. In the 72, driving east, the lode is worth 15l. per fm. In the 60, driving east of rise, the lode is worth 14l. per fm. In the rise in back of the 60 the lode is worth 10l. per fm. In the 60, driving west of cross-cut, the lode is worth 10l. per fm. Driving east of cross-cut the lode is worth 20l. per fm. In the 50, driving east of No. 1 rise, the lode is worth 15l. per fm. Driving east of No. 2 rise the lode is worth 10l. per fm. No change to notice in the stopes since last report.

WHEAL AGAR.—W. C. Trevenna, May 5: I beg to hand you our setting report of Saturday:—Weston's engine-shaft to sink below the 235, by nine men at 60l. per fathom. The 225 is being driven east of shaft, by six men, at 6l. per fathom; this end is looking remarkably well, and worth for tin 42l. per fathom. A rise behind this end is worth for tin 40l. per fathom, and rising by six men, at 8l. per fathom. Also a stope at this level, west of the cross-course, is worth for tin 20l. per fathom, and stoping by six men, at 6s. per ton of stuff. The 215 is being driven east of shaft by two men, at 10l. 10s. per fathom, where the lode is worth for tin 25l. A rise in the back is worth for tin 15l. per fathom, and rising by six men, at 14l. per fathom. No. 1 stope in the bottom of this level is worth for tin 15l. per fathom, and stoping by nine men, at 8s. 9d. per ton. No. 2, west of winze, is worth for tin 20l. per fathom, and stoping by nine men, at 6s. 9d. per ton. No. 3, east and west of No. 2 winze, is worth for tin 25l. per fathom, and stoping by nine men, at 6s. 9d. per ton of stuff. The 215 cross cut is driving south to intersect the south lode, by six men, at 7l. 10s. per fathom, and hope to reach it before another month. The 205, driving west of cross cut, is worth for tin 8l. per fathom, and driving by four men at 12l. per fathom. The 205, driving west of cross-course by six men at 10l. per fathom, is worth for tin 10l. per fathom. The 205, driving east of cross-course, by six men, at 8l. per fathom, is worth for tin 15l. per fathom. There are three stopes working in this level (205) by 21 men, at 6s. 6d. per ton, and worth on an average 20l. per fm. The 195 is driving east of shaft, by four men, at 10l. per fathom, and producing saving work for the stamps. There is a cross-cut started north from this level to get under the new shaft, which is driving by nine men, at 15l. per fathom. We have two stopes working in the 195, one east of the cross-course by six men, at 7s. per ton, where the lode is worth 10l. per fathom; the other east of the winze by nine men, at 7s. per ton, and lode is worth for tin 15l. per fathom. In the 185 a stope is working by four men, at 2l. per fathom, and lode is worth for tin 10l. per fathom. Our new shaft is sinking below the 120 by nine men, at 24l. per fathom, and very fair progress is being made.

WHEAL COMFORD AND NORTH TRESAVEAN.—W. Rich, H. Treganowan, May 6: The stope east of the winze on Morcom's tin lode, below the deep adit, is worth 12l. per fathom. The stope in the bottom of the shallow adit is worth 7l. per fathom. The copper lode below the deep adit, and east of Peter's shaft, is looking very promising, and is set on tribute at 7s. in 1l. We have nearly completed Morcom's shaft to the 10 fms. level, and have enlarged this level with the view to facilitate the development of the tin and copper lodes in depth. We hope to be hauling through Morcom's shaft by the end of this week.

WHEAL CREBOR.—H. Phillips, P. D. Holman, May 6: Good progress is being made in sinking the new shaft below the 144, the lode contains spar and arsenical mundic, and is evidently approaching the ore ground going down in the bottom of the 144, west of new shaft, the water which hither has flowed out of this level is drained dry by the shaft below. In the 144, east of new shaft, the men are engaged in cutting through the lode north, which contains spar and capel intermixed with mundic. The lode in the 144 west is not so good for progress as it has been, yielding 7 tons of ore and 5 tons of mundic per fathom. The lode in the stope in back of this level will yield 8 tons of ore and 4 tons of mundic per fathom. The lode in the stope in the winze communicated with the 144 will yield 8 tons of ore per fathom. The lode in the 132 driving east of winze will yield 1 ton of ore and 2 tons of mundic per fathom. The lode in the back of this level will yield 4 tons of ore and 3 tons of mundic per fathom. In the 72, east of new shaft, the men are driving south on the slide, which is letting out water freely. We shall continue this course until we reach the south part of the lode. The lode near this No. 1 slide in the 48 did yield 3 tons of ore and 2 tons of mundic per fathom. The lode in the winze sinking below the 48 will yield 3 tons of ore and 4 tons of mundic per fathom. The lode in the stope in back of this level will yield 4 tons of ore and 4 tons of mundic per fm. There is no material change in any other part of the mine.

WHEAL COATES.—Wm. Vivian, May 2: The mine is much the same as for some time past; no change to notice. We shall have about 70 tons of copper ore to sample on Tuesday, May 20.

WHEAL GRENVILLE.—T. Hodge, May 6: I have been all through the mine to-day, but I don't see any change in bargains since my last. We shall sell about 17 tons of tin on Thursday next.

WHEAL PEEVOR.—W. T. White, T. C. King, May 6: Saturday last being our pay and setting day, the following bargains were set:—The 60 fm. level cross-cut to drive south at 9l. 9s. per fathom. The ground in this cross-cut is of a most promising character; there is a spar coming in the end which evidently is connected with a tin lode that must be very near. The men in the 48 cross-cut north having completed their contract we again set them another bargain of 20 fms. certain to drive at 3l. 15s. per fm. We hope to cut the new tin lode in this cross-cut (discovered in the deep adit north) in about 6 fms. further driving. This is a very important point, as from what we have already seen of this lode in the deep adit it is a productive one, and is standing whole throughout the mine. Cross-cut to drive north at the 16 at 6l. per fathom; this is to cut the new tin lode already referred to, and will communicate with the No. 1 winze sunk in bottom deep adit. We hope to accomplish this in three months, when a fine section of ground will be laid open upon this lode, which can then be worked to a good advantage. The deep adit end to drive west on new tin lode at 4l. 10s. per fathom, and 5s. in 1l. tribute; lode in end worth 8l. per fm. We have also set to a pare of four men to drive east and west from bottom of No. 1 winze at 4l. 10s. per fathom, and 6s. in 1l. tribute. In driving west from this winze about 12 fms. we shall communicate with the cross-cut now driving at the 16. We value the lode to be worth in the ends of this winze referred to 8l. per fathom. The stuff already broken and sampled from this lode makes an average produce of over 90 lbs. to the ton of stuff. In the new shaft on Great North Downs lode we set the deep adit end to drive west on copper part at 4l. per fm.; the lode in this end is producing some good stones of copper, and the ground around it is most congenial. We feel satisfied all we want in this lode is depth to meet with rich courses of ore. We are now preparing to sink with all speed below the deep adit, and hope to commence doing so next week. The prospects of the mine we are happy to say has very much improved, and we believe when we have communication effected with the new tin lode below the deep adit we shall again be able to work the mine at a profit.

From Mr. JOHN B. REYNOLDS:—There have been many distinctive features in the market for public securities this week. The difficulty investors have experienced in finding remunerative channels for their capital without greatly jeopardising the principal has been remarkable. At present there is no indication that this difficulty will be less during the next 12 months. On the contrary, should there be any political, or other disturbance, this unsatisfactory state of matters will, undoubtedly, be felt more keenly in the future than it has been in the past. It is natural as well as highly judicious that an individual who relies on his dividends for his income should be scrupulously careful as to what he goes into. From an impartial point of view, we are of opinion that the time is fast approaching when many persons will have to set aside a certain sum for speculation, whilst appropriating a sufficient amount to investments which are acknowledged to be perfectly safe. Such as, for instance, Consols and other Government securities, railway debenture stocks, and others of a like description. The keen eye of the critic is again turned upon bank shares, in consequence of the failure of the Oriental Bank. As is usual in such cases a decline in the prices of all bank shares has followed, and it is seldom we have known the unrest of the shareholders less justified. Why, because of this particular failure first-class banking institutions, totally unconnected with the concern in question, should suffer we are at a loss to understand. As we have before pointed out, it is well that every now and then timid shareholders should be got rid of, in order that men of sense and prudence may take their places. Yet it is fair to say that a holder of bank shares should have due regard to the liability which his holding involves in case of failure, notwithstanding that in leading banking institutions this liability for all practical purposes is merely nominal. In times like the present it is well to look back upon the past history of markets for public securities, and on reflection we think all must admit that panics have been caused, not by the inherent unsoundness of our leading investments, but simply by the accidental collapse of a few which have given signs of weakness long before the catastrophe has taken place. It is also a fact beyond dispute that fortunate speculators and investors have invariably met with their success by buying in periods of panic. The columns of the *Mining Journal* have been principally devoted to the record of mining facts of interest, and it is right that the market for mine shares should not be overlooked, although the interest of the public is seldom directed to that quarter.

The future of mining in this country will largely depend upon the management of the companies that work the properties. Up to the present there has been but little indication of any *bona fide* desire on the part of those responsible to get out of the old and much-disliked ruts. To a few laudable exceptions we are indebted for any attention being directed to mining at all. We notice with pleasure the growing determination to conduct mining companies on sound commercial principles, and if this determination becomes general then and most assuredly a large amount of capital must flow to mining speculations. This will be the inevitable consequence we think of the difficulty which is at present experienced in getting employment for money. Indeed, it cannot be denied that at the present moment dividend mine shares of any standing can be sold in almost unlimited quantities, such is the demand for this kind of investment. Unfortunately, however this demand is confined to a few mines only, prominently amongst which are Dolcoath, East Pool, and West Kitty. The fact is very significant, and when the Metal Markets get fairly hold of the confidence of the public, a great advance in these securities would appear to be certain. As it is, and with the present price of tin, they produce admirable results. Nor ought the demand for first-class progressive mines to be overlooked. Those who want to buy the securities know well how difficult it is to get them at quoted prices.

It should be mentioned that it is a very ordinary circumstance for mining shares to have a sudden rise at a time when the public generally do not pay the slightest attention to them; and without the slightest notice a mine often starts out into bold relief which has previously been lost sight of altogether, excepting by the few who have been carefully watching its progress. A glance, therefore, at the mining list will be sufficient for anyone to recognise the propriety of paying particular attention to certain properties which of late have not been much noticed. We need only mention the names of New Kitty and West Polbreen to indicate what we mean. The former, it will be remembered, is immediately adjoining West Kitty, and a certain run of the West Kitty rich ground is gradually approaching it. Now is the time we think for all the documentary evidence which has been published from time to time concerning New Kitty to be carefully perused.

As to West Polbreen the characteristics of the West Kitty lode in that se can only point to one conclusion, which is a most satisfactory one for the We Polbreen shareholders to contemplate. The speculative character of Wheal Coates has been probably more dwelt upon than any other feature in connection with the mine. Why this should be so it is difficult to determine, seeing that if all the money was lost which might now be risked the moderate speculator would not feel the loss at all, whilst it is not denied that if the present prospects continue and the West Kitty lode should be cut rich Wheal Coates shares will at once come into favour. We have mentioned these three mines simply because they have been apparently overlooked lately, and have not had that attention which all must admit they deserve. That mines with such prospects and in such a locality, and entirely free from debt should have escaped notice for so long is one of the anomalies peculiar to the present state of business. Judging from the market it would appear that Polberro shares must continue to advance, but there is nothing new in the mine itself to justify any alteration in prices. It is the most difficult thing possible to get the public to grasp an idea, but if those interested in mines will only take the trouble to study the history and present position of Polberro the will want no advice as to what they ought to do, but we do not expect that such study will be indulged in until Polberro is on the eve of entering the Dividend List.

Taking a general survey of the whole of the markets, there is reason to believe that improvement has fairly set in, and that there will be no retrograde movement to make it more favourable for parties who are obliged to make use of their money. The question is not now whether tin will go lower, but whether or not it will not have a much greater advance than well-informed persons have ever hoped for. The tendency of the copper market gives cause for universal congratulation, and should the upward movement continue an unspeakable benefit must arise for the mining industry of Devon and Cornwall.

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, MAY 9, 1884.

IRON.	£ s. d.	£ s. d.
Pig, GMB, f.o.b., Clyde...	2 1 6-	—
,, Scotch, all No. 1 ...	2 2 3-	—
Bars Welsh, f.o.b. Wales	5 0 0-	—
,, ,, in London.	5 10 0-	—
,, Stafford., ,,	6 10 0-	—
,, in Tyne or Tees ...	5 2 6-	—
,, Swedish, London...	9 0 0-	9 10 0
Rails, Welsh, at works..	5 0 0-	—
Sheets, Staff., in London	7 10 0-	7 15 0
Plates, ship, in London.	8 0 0-	8 5 0
Hoops, Staff., ...	6 10 0-	7 0 0
Nail rods, Staff., in Lon.	6 10 0-	—
STEEL.		
English spring 12	0 0-13	0 0
cast 30	0 0-45	0 0
Swedish, keg 13	0 0-14	0 0
,, fag. bam. 13	10 0-14	10 0
Rails at works.....	5 0 0-	—
,, Light, at works...	6 0 0-7	0 0
LEAD.		
English pig, common..	11 7 6-11	10 0
,, ,, L.B. 11	12 6-11	15 0
,, ,, W.B. 11	17 6-12	0 0
,, sheet and bar..12	2 6-	—
,, pipe 12	10 0-	—
,, red 15	10 0-	—
,, white 17	10 0-19	5 0
,, patent shot ...14	5 0-	—
Spanish..... ,, ...11	2 6-	—
NICKEL.		
Metal per cwt.	— -	—
Ore 10 per cent. per ton.	— -	—
SPELTER.		
Silesian, ordinary brands14	7 6-14	12 6
,, special brands. 14	1 6-14	17 6
English Swansea	15 10 0-	—
Sheet zinc.....18	0 0-	—

TIN.	£ s. d.	£ s. d.
English, ingot, f.o.b...	89 10 0-	90 0 0
,, bars ,, ...	90 10 0-	91 0 0
,, refined.....	91 10 0-	92 0 0
Australian	85 15 0-	—
Banca	nom. -	—
Straits	85 15 0-	—
COPPER.		
Tough cake and ingot.	62 0 0-	63 0 0
Best selected	63 0 0-	64 10 0
Sheets and sheathing.	71 0 0-	73 0 0
Flat Bottoms	74 0 0-	76 0 0
Wallaroo	nom. -	—
Burra, or P.C.C.....	,, -	—
Other brands ... nom.	62 0 0-	62 10 0
Chili bars, g.o.b.	56 15 0-	—
QUICKSILVER.		
Flasks, 75 lbs., war.	5 10 0-	—
PHOSPHOR BRONZE.		
Alloys I. and II.		£112 0 0
,, V.		118 0 0
,, VI. and VII.		133 0 0
,, XI., Duro A, Duro B....		110 0 0
BRASS.		
Wire	6¼d.-	—
Tubes	6⅝ -	—
Sheets	7⅛-	—
Yel. met. sheath. & sheets	5⅞-6d.	
TIN-PLATES.*	per box	
Charcoal, 1st quality ..	1 1 0- 1	2 0
,, 2nd quality ...	0 19 0- 1	0 0
Coke, 1st quality	0 16 3- 0	16 6
,, 2nd quality	0 15 6- 0	16 0
Black..... per ton	15 10 0-	—
Canada, Staff. or Gla. at Liverpool	12 0 0-	—
Black Taggers, 450 of 14 × 10	30 0 0-	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—There is no material change to record in the state of our markets, but during the week the feeling has been made a little uneasy and unsettled by the suspension of payment of the Oriental Bank, together with other failures here and in America. While the uncertainty exists as to how far these financial difficulties may affect others there will necessarily be some hesitation evinced on the part of all operators before increasing their present engagements and entering into fresh contracts; but it is satisfactory to find that there is little or no disposition to take a gloomy view of the situation. On the contrary, the general opinion indicates that these stoppages will have little effect upon those who deal in metals. They tend temporarily to shake confidence, and slightly injure credit, but time will soon remove these evils, and without further failures being announced the trade will be speedily reorganised and carried on in its normal and ordinary condition. The failure of banks must always make some impression upon any market, and the metal trade is therefore to be congratulated on the slight unfavourable influence that has been produced thereby. In those metals where for weeks and months past there has been only a limited business doing the influence has been wholly imperceptible; and in copper and tin, where speculative buying as well as purchases for the regular wants of the trade has been more or less active there was only a short pause in the general vitality, and cheerfulness was very soon again restored to the markets. These failures are not expected to affect injuriously the future trade, but are taken more as evidences of the bad state of trade for months past, culminating at last in the present semi-stagnation. Prices of some metals are now so extremely low and unremunerative that it would require a greater crisis than that to which we have referred to cause them to recede further; and in those metals in which speculative buying has been carried on during the last few weeks operators see nothing in the present not altogether unexpected difficulties to prevent their giving continued support to the market. Had these failures been announced before the upward movement in prices had been started the advance would doubtless have been delayed; but having been set in motion the combined efforts of operators will doubtless be sufficient to prevent any particular sacrifice in prices having to be made from this cause.

It must be remembered that the upward movement was started from favourable features connected with the separate markets, and there is every reason to believe that these features will continue to bear greater influence in regulating future prices than those outside the market. The markets may keep somewhat unsettled from the cloud of uncertainty which hangs over them, owing to these stopping of payments, but it is interesting to note that these two great influences which exist, and which are likely to be the two principal features in developing, and causing a revival in trade, are also likely to prove the two principal events in raising that cloud of uncertainty, and re-establishing general confidence. We refer to the cheap money and the cheap prices. Financial arrangements are so easy to arrange and prices so low as to cause little risk in effecting purchases that despondency may be cast away, and a free scope allowed for trade to expand. Any immediate or general revival cannot, however, be looked for just yet awhile. In those metals where deliveries have been good and supplies moderate there may be some further advance, but there is nothing that is likely to rouse the general trade yet awhile, and to restore life and activity to our various manufacturing centres. The markets may probably drag on in their present uninteresting state during the summer months, with buyers continuing to purchase in a hand-to-mouth fashion, with continual complaints amongst sellers of the unremunerative prices that are realised, and with the existence of keen competition, though the general monotony of the trade may, and probably will, every now and then be broken by fluctuations, caused by the movements by operators.

COPPER.—A tolerably large business has continued to be transacted in this metal, but the change in prices have been immaterial, at the same time they are not so strong as they were a week ago. This is not surprising, because prices had before been pushed up rather rapidly, and at a time when the advance was not expected. It is true that the movement was based upon a substantial foundation, such as very large deliveries and diminished stocks, but then coming at a time when it was not anticipated, and when operators themselves were not wholly prepared for it, it naturally follows that as prompts fall due sales are more or less pressed upon the market, and thus an adverse influence is for the time being produced upon prices. This, of course, may be merely temporary, because the actual condition of the market has been so vastly improved by the sensible reduction which was effected in the stocks last month.

Nevertheless, there is sufficient gloom still hanging over the market to make operators hesitate before they follow up an advance. The rise already effected has been material, and although prices are still remarkably cheap, yet the advance has been enough for the time being, and we may, therefore, see some little reaction. The deliveries having been large last month, they are scarcely likely to be sustained upon so high a level during the present month, and the smelters also being reported badly off for orders it is quite possible there may be another crumbling away of prices for the next few weeks. Afterwards, however, if the low prices continue to stimulate the demand for consumption another rebound may perhaps ensue, especially if supplies be kept, as they have recently, within the requirements of the trade. It is the old question of supply and demand which must bear the ultimate effect upon the market.

IRON.—This market continues very dull, and no signs of improvement as yet present themselves. Business is almost lifeless in all its branches; for shipping and for consumption there being general complaints of a scarcity of orders. Steadiness characterises prices, but they have an easy tendency, slight concessions every now and then being made to facilitate business. Orders are eagerly sought after, almost all limits that are at all practical are at once accepted, but notwithstanding all these advantages so freely offered to buyers, the number of orders thus accumulated are not more than sufficient to keep the various mills and works in operation only a short time, and in the manufacturing centres of the trade, where in ordinary times briskness and animation, life and general activity are the principal features, there is now but a paucity of business, a general absence of vitality, and a settled monotonous gloom prevailing throughout the whole districts. The reduced prices make a material adverse impression upon the interests of all manufacturers and makers; but perhaps the greatest sympathy at the present time is felt for the employed, whose scanty means and absence of reserve resources necessarily causes a great deal of distress. This distress is intensified when taken in conjunction with the little prospect that exists of any speedy revival, and if business should become contracted to any further extent the outlook of the trade is indeed far from promising.

In the North especially are the reports of the state of the trade unsatisfactory, and although the shipments there are said to be fairly up to the average, yet the general trade is lifeless and inanimate. Another feature which tends to damp the tone of the market is the further putting into blast of extra furnaces in Scotland. This is unfavourable, because it prevents the heavy stocks from being reduced, and the public stock in Glasgow alone is now estimated at about 12,000 tons in excess of what it was a year ago. Monday last being kept as a closed day in Scotland, there was no warrant market held, but on Tuesday the opening price was stronger than at the end of last week, and there was a good deal of business done at 42s., from which point the price gradually gave way to 41s. 9½d., and then slightly improved to 41s. 10d. On Wednesday there was a steady market, and a fair business transacted, the price quoted being 41s. 8½d. to 41s. 9d., while yesterday the market was a little firmer, and a fair business was done between 41s. 9d. to 41s. 10d., and the closing figure this afternoon is 41s. 6d. per ton. The shipments last week were 15,223 tons, against 13,198 tons for the same week of last year, being an increase of 2035 tons, and which makes the total shipments for the whole of this year 189,210 tons, against 203,982 tons for the same time of last year, and 213,246 tons for the similar period of 1882. There are two furnaces more in blast now than a week ago, the total being 97 against 95, and the public stock has undergone very little alteration, amounting to 592,639 tons, against 592,779 tons last week.

The imports of Middlesborough pig iron into Grangemouth last week were 4373 tons against 4240 tons for the same week of last year, being an increase of 133 tons, and which makes a total increase for the whole of this year compared with last of 2746 tons. The quietude of the trade in Scotland also has a very depressing influence upon the market at Middlesborough, where business is reported unusually quiet, and the future is regarded with great uncertainty. The shipments, however, continue fairly good, the deliveries last week being about 20,000 tons. The most satisfactory feature in the market is the stock returns, there being a decrease last week of more than 8000 tons. Sales of pigs have been extremely limited, and the price of No. 3 is 33s. 9d., and of No. 4 35s. to 35s. 3d., while the public stock has undergone no change. Most of the works who turn out finished iron are in operation only short time, but prices for the most part have not been reduced.

The quotation for ship-plates is 5*l.*; for angles, 4*l.* 15s.; for common bars, 5*l.* 2s. 6d. to 5*l.* 5s.; and for puddled bars, 65s. per ton. There continues to be much quietude in the trade at Wolverhampton, and specifications both for old contracts and new orders are most difficult to obtain. What orders there are in the market are often at such low limits that they in many cases have to be refused. Sheets for export can be bought at 7*l.* 10s. to 7*l.* 15s. for doubles, and 8*l.* 15s. for lattens. Hoops are offering as low as 6*l.* 5s., and bars range from 6*l.* to 7*l.* 10s., according to quality. Pigs continue dull of sale, native all mine are quoted at 60s., part mine at 52s. 6d., and cinder pigs at 40s. to 37s. 6d. per ton. The wages disputes having for the time been satisfactorily settled, the market at Birmingham is steadier, and some orders which for a long time have been held in abeyance have been placed, but in quotations there is no alteration to report.

TIN.—Prices for this metal have been rather fluctuating, and notwithstanding that a fairly large business has been transacted yet operators have not been decided in the course they have pursued. Consequently, quotations have advanced one day and receded the next, the tone being at times active and at others depressed. The fluctuations and changes of the week, therefore, do not in any way indicate the future of the market. Its actual position is without variation, and nothing fresh has arisen to damp the sanguine views which have recently been so freely and widely expressed. The last statistics showed the public visible stock on the 30th ult. to be 14,107 tons, being a slight decrease for the month of April, and it is worthy of note that the stock has not been so small at the corresponding period for many years past, and, further, the price has not been recorded at the end of April so low as at present for any year since 1880, when the quotation given was 80*l.* 5s., but then the stock was more than 7000 tons in excess of what it is now.

The stock throughout the whole year has been steadily diminishing, and yet prices have not improved, being now much about on a par as they were at the commencement of the year. These features, taken in conjunction with the growing increase in consumption of this metal, the already reduced supplies, and the probable further curtailment in the quantities that may be sent forward to our market from the various centres of supply during the next few months, together with the comparative low prices that are ruling and the spirit of strong speculative buying which every now and then makes itself prominent, are all evidences of a bright future and the establishment of a higher and more remunerative range of prices. A Dutch sale is announced for the 28th inst. at Rotterdam, when 18,200 slabs of Banca and 3900 slabs of Billiton will be offered.

STEEL.—Quietude continues to be the principal characteristic of this market, and no new feature is to be reported either in prices or demand.

TIN-PLATES.—A very fair business is being transacted, and, although prices do not materially advance, yet, for the most part, they remain strong, and, in some instances, slightly dearer rates have recently quoted. Of late some very heavy shipments have been made, and there is every indication of a rapidly expanding demand for consumption.

SPELTER.—The market is quiet, and without material change.

LEAD is dull, at previous rates.

QUICKSILVER.—The Board of Trade Returns for April are as follows:—

		1882.	1883.	1884.
Imports—April	Bottles	10,607	4,082	7,087
,, January-April	,,	30,462	16,013	37,158
Exports—April	,,	5,418	4,656	2,038
,, January-April	,,	11,133	17,204	14,745

The exports are the smallest in any single month since January, 1882. The market is quiet at 5*l.* 10s. in first hands, with occasional sales for second-hands at a shade less.

On the whole the MINING SHARE MARKET has been somewhat inactive this week, and there has been very little variation in prices. A few shares have risen and a few have receded, without much business being done in either. The mines dealt in have included Dolcoath, West Kitty, West Frances, South Frances, Bratsberg, Wheal Crebor, Prince of Wales, New Langford, East Rose, Old Shepherds, Wheal Grenville, Polberro, Tresavean, and a few others.

The question of advertising shares at fixed prices or continuing the exclusion of prices from advertisements—the test period having expired—was fully discussed in the Market this afternoon, and a communication was forwarded to the Editor of the *Mining Journal*, asking whether he would consent to exclude *all* the said prices for another three months. Several dealers said that their clients were by no means unanimous as to the advantage of the exclusion, and the Editor's reply having been received to the effect that although during the test period he had received numerous complaints that it was more difficult than before for the public to effect sales, yet he would give the matter another three months' trial if the dealers were unanimous, the feeling of the meeting was formally taken, and the vote was *not* unanimous. It would be invidious to state how each dealer voted; we will therefore only mention that so far as we are concerned the restriction is removed.

TIN has been firm, and advanced beyond 86*l.*, but the rise in shares consequent upon the advance in the standard for ore has scarcely been maintained, and less business has been done. Carn Breas are quoted 3½ to 4; Cook's Kitchen, 13½ to 14½; Dolcoath, 76 to 78; East Pool, 40 to 42; East Blue Hills, 4s. to 6s.; Killifreth, ⅝ to ¾; New Kitty, 1½ to 1¾; South Condurrow, 9½ to 10. South Frances, 10½ to 10¾; a telegram from the purser, received at the *Mining Journal* office this (Friday) evening says: "We have cut the lode in the 58, west of Daubuz's; it is 3 ft. wide, with good stones of tin. We shall be able to report fully next week." Tincroft, 4½ to 5; Tresavean, ⅞ to ¼; West Basset, 4½ to 5½; West Frances have advanced to 11, 11¼; West Kitty, 12½ to 13; Wheal Agar, 17 to 18; Wheal Basset, 3 to 3¼; Wheal Grenville have further advanced, 6½ to 6¾; Wheal Kitty (St. Agnes), ½ to ¾. Trevannance, 2 to 2½; in the 55, east of cross-cut, the lode is worth over 20*l.* per fathom for copper ore, a parcel of which will be sampled on May 20. Polberro, 1½ to 1¾. Wheal Uny, ½ to ⅝; at the meeting, on Friday, a call of 10s. per share was made. South Kitty, 7-16 to 9-16; Phœnix, 2½ to 2¾; West Godolphin, 1¼; Wheal Peevor, ½ to ¾; this mine is said to be looking better. At Pedn-an-Drea meeting the accounts showed a loss on three months' working of 551*l.*, and a debit balance of 979*l.* A call of 3s. per share was made. The tin sold (31 tons) realised 1517*l.* The agent hopes to reduce the cost, and to slightly increase the returns for another three months.

COPPER has further advanced, and as the consumption has increased 50 per cent. during the past few months, we may look for better prices. In shares only a moderate business has been done. Bedford United, 1½ to 1¾; Devon Great Consols, 3½ to 3¾; Gunnislake (Clitters), ¾ to 1; Leadhills, 1⅞ to 2¼; Mellanear, 1½ to 1¾; New Cook's Kitchen, 1 to 1¼; Prince of Wales, ⅝ to ¾; West Crebor, 2s. to 3s.; West Seton, 4 to 4½; Wheal Crebor, 1⅜ to 1½; the shaft is now in course of sinking below the 144 level, and the agents think it is approaching the ore ground going down in the bottom of the 144 west, which level is worth 7 tons of ore and 5 tons of mundic per fathom. The points in operation altogether are worth 38 tons of copper ore and 24 tons of mundic per fathom. At South Penstruthal branches impregnated with rich yellow copper ore are still coming in from the south at the 170; the agent hopes to meet with a rich deposit. New Langford, ½ to ¾; another stope has been commenced, saving work for silver-lead. Devon Friendship, the agents report, is going on satisfactorily. South Caradon, 9-16ths to 11-16ths; West Caradon, 1-16th to ⅛.

LEAD continues dull, and scarcely any business doing in shares in lead mines. Prices, therefore, are merely nominal. Vans are quoted 2½ to 2¾. Great Laxey, 10½ to 11. Roman Gravels, 3⅜ to 4½; the sampling next week will be 225 tons of ore. The points in operation at the mine are worth in the aggregate 43½ tons of ore per fm. South Darren, ¼ to ⅜; the mine continues to look well throughout. The 20 tons lead sold realised 232*l.* 10s., and 60 tons of copper ore have been sampled. D'Eresby Mountain, ¼ to ⅜; Ecton, 1 to 1½; East Rose, ⅜ to ⅝; Frongoch, ⅝ to ¾; Leadhills, 1¾ to 2⅛; Old Shepherds, ⅜ to ½. Weardale, 1¼ to 1⅜; it will be seen by the weekly report from the managers that the various mines at work are opening up with very promising indications and results. Amongst the discoveries a valuable lode has been cut in the Bolt's Burn Mine.

FOREIGN MINES.—The amount of transactions in mines of this class has been decidedly smaller, but a much larger number of securities have been dealt in. Akankoo are quoted ¼ to ½, and business was done to-day at 7-16ths; Alamillos, 1½ to 1⅝; Almada and Tirito, ⅜ to ½; Asia Minor, ⅛ to ⅜; Birdseye, ⅛ to ¼. Bratsberg, 1⅛ to 1¼; the Mary Owen has just been loaded with another cargo, making the third this year. Callao Bis, ½ to ⅝. Cape Copper, 45 to 47; business at 46½ and 45½, rather weaker at close. Chile Gold, ⅜ to ½; Chontales, 3-16ths to 5-16ths; Colorado United, 2½ to 3; Denver Gold, ¼ to 3-16ths; Fortuna, 2⅜ to 3½; Frontino and Bolivia, ⅜ to 1.

General Mining, 6 to 6½; Gold Coast, 3-16ths to ¼. Kapanga, ⅛ to ¼; the directors have received advices from Capt. P. Argall, the new agent, that he has arrived in New Zealand, so that definite intelligence may be expected from him shortly. La Plata, ½ to ⅝; a telegram received from Leadville for the month's working shows:—Ore received, 2600 tons; La Plata ore, 900 tons; ore smelted, 4000 tons; bullion produced, 400 tons; silver, 90,000 ozs. The teams cannot haul ore at present on account of bad roads. La Plata reduced until hauling possible."

Lake Superior Copper, ⅜ to 1. Lisbon-Berlyn, 1 to 1½; the telegrams state the prospects to be favourable; the hydraulic machinery, 60-stamp mill, &c., have reached Durban, and are expected on the field by June 15. Mason and Barry to bearer, 12½ to 13; Michipicoten, ½ to ⅝; Montana, 2¾ to 3; New Callao, 3-16ths to 5-16ths; New Emma, ⅛ to ⅜; Nouveau Monde, ⅛ to ¼; Organos, 1⅜ to 1½; Orita, ⅜ to ½; Panulcillo, 4¾ to 5¼; Richmond, 3¼ to 3⅜; Rio Tinto Bonds, 100 to 102; shares, 19 to 20; Schwab's Gully Diamond, 8 to 8½ ex div.; Scottish Australian, 2½ to 2¾; Ruby and Dunderberg, 1 to 1¼; St. John del Rey, 60 to 70; Tharsis, 6 to 6½ ex. div.; Tolima A, 7 to 8; Transvaal Gold, 1¼ to 1½. United Mexican, 12 to 12½; the telegram states that the excess of returns over outlay in the mine of San Cayetano de la Ovejera for the week ending May 3 is $10,300; West Callao, ½ to ⅝.

The Market for Mines Shares on the Stock Exchange has been very dull, attention apparently having been diverted by other and graver matters. The collapse of the Oriental has caused a rush to sell bank shares generally, but as a rule the sellers have not displayed any anxiety to invest the proceeds of their sales in mines, although the present low quotations afford a favourable opportunity for such an operation. Matters are, however, now settling down and the downward movement in prices seems to have stopped, so that more steadiness and improvement in mine shares is looked forward for. The directors of the Oriental Bank explain that the steps taken immediately after the stoppage of placing the affairs of the bank in liquidation under the Court was the only possible way of protecting the interests of both creditors and shareholders. As an unregistered company the corporation could not be wound up voluntarily or under the supervision of the Court, there being an express provision to that effect in the Companies Acts of 1862, Section 199. Both creditors and shareholders are deeply indebted to those good friends of the bank who seconded the directors in the grave emergency of the stoppage, by presenting a petition so promptly as to secure the provisional liquidation in the hands of Mr. Welton and Messrs. Freshfields and Williams, before any hostile or speculative petitioners could take action. The liquidation by the Court, however, does not at all prevent a scheme of arrangement being effected a little later on for relieving the corporation as soon and as far as may be, from expenses and complications. Towards such a scheme the liquidators and the solicitors promise their earnest co-operation, and we feel bound to say that they are working through the difficulties which daily arise in a most prompt and energetic manner, and that the assistance and protection afforded by the Court have been most beneficial. Without it there could have been no arrangements made for continuing the upkeep and ingathering of the crops in Mauritius and Ceylon. Meantime, the solicitor of the corporation is devoting himself to the endeavour to secure a scheme for its relief, and it is still hoped that one may be found practicable, probably taking the shape of a new bank, to take up the still valuable business, and an estates company to take over the properties in Mauritius and Ceylon. It is not yet time to say more about these plans; but if a fair working arrangement can be devised it ought to receive the support of both creditors and shareholders, and in the meantime ill-considered public suggestions and premature discussions can only hinder the work in view.

The prospects of the metal market being more encouraging is a satisfactory feature, and as mine working expenses have now been reduced to the minimum a comparatively small rise in the price of ores would enable many mines to earn profits. This afternoon the purser of South Wheal Frances sends a telegram:—"We have cut the lode in the 58, west of Daubuz's; it is 2 ft. wide, containing good stones of tin." These shares closed very firm.

Our usual telegram from Cornwall this evening says:—During the past week the Cornish Mine Share Market has been fairly steady, with a good tone. In some cases realisations have slightly affected a few shares, but generally speaking the market has been well maintained. Dolcoaths remain about the same. East Pools quiet: a dividend of from 18s. to 20s. is expected at the meeting. West Kitty, South Frances, Cook's Kitchen, and Grenvilles have been in demand. West Bassets, Tincrofts, and Agars rather quiet. At Wheal Uny yesterday a loss of 149*l.* was reported, 10s. per share call being made. At Pedn-an-Drea yesterday a loss of 551*l.* was shown, and a total debit balance of 979*l.* The tin sold was 31 tons, realising 1517*l.* A call of 3s. per share was made. It was decided to continue the working of the mine for three months. The agents expect to reduce the costs somewhat, and to increase the returns of tin by 1½ ton.

The Tarrangower Australian Gold Mining Company with a capital of 120,000*l.*, in shares of 1*l.* each, has been formed to purchase for 45,000*l.* (of which 25,000*l.* is taken in cash, and the remainder in shares) and work the North British Mine at Maldon, Victoria—one of the oldest gold producing districts in the colony, and in the very centre of the famous Victorian gold fields. The mine is, the prospectus states, held under a Crown lease with about 14 years to run, and such leases are invariably renewed. The area consists of 16 acres 2 roods 33 perches (a large holding for a quartz mining lease), covering along the line of reef 580 yards. The main shaft is sunk to a depth of 600 ft. It is 10 ft. by 5 ft. in size, and securely timbered throughout. The property is submitted to the British public on behalf of the vendor by Mr. John McIntyre, member of the Legislative Assembly for the Maldon district in the Victorian Parliament, a well-known colonist of high reputation and great gold mining experience, and the directors, having fully satisfied themselves of his unquestionable ability, experience, and integrity, are happy to say that this gentleman has consented to undertake the duties of managing director in Victoria, jointly with Mr. Oswald, for a nominal remuneration, until the company is paying regular dividends. Mr. McIntyre has come to England so highly accredited by the public Press of the Colony, and with such undeniable references, that, relying upon his representations, together with the reports of the senior Government Inspector of Mines and the Mining Surveyor of the district, the directors have every confidence in the valuable character of the mine, and that shareholders in this company may safely look for early and large returns on their outlay. The mine is in full work, and has complete and extensive crushing, pumping, winding, and all other necessary machinery, and buildings (valued at 10,2 0*l.*) erected thereon, and the object for which capital is now being sought is to develope the mine below the 600 ft. depth already attained. Quartz mining experience in the adjoining Bendigo district has fully demonstrated the fact that where the higher workings of a mine are rich, the reefs have proved still richer at the greater depths, and the shallower workings of this mine having already yielded over 2 0,000*l.* there is, therefore, every prospect of very rich returns from deep sinking. In order to give some idea of the probable wealth of this mine it may be stated that recently a small tribute party, working a portion of it, realised in two and a half years (on an expenditure of 1275*l.*) the sum of 41,000*l.*, out of which they paid 10,000*l.* to Mr. Oswald and 15,000*l.* in dividends to themselves.

And this result, obtained from the present lowest workings, is the strongest indication, as explained above, of still richer returns at lower depths. The same tribute party desired an extension of their agreement for the purpose of sinking the main shaft and continuing their operations below the level which they had worked, but Mr. Oswald refused to prolong the tribute, having determined to form a public company, in which he himself would hold a large interest.

The Adelaide Copper Mining and Smelting Company with a capital of 100,000*l.*, in shares of 1*l.* each, has been formed to purchase for 20,000*l.* (of which 3000*l.* is taken in cash, and the remainder in shares), and develope several valuable copper mines at Kanmantoo in South Australia, and to smelt the produce thereof on the spot by means of water-jacket furnaces, now so successfully used in America. These mines have hitherto been worked in a desultory manner, and under the disadvantage of a high rate of carriage, but the construction of the Government railway from Adelaide to Melbourne passing within a mile of the mines, now places them in a position to yield profits hitherto unobtainable. The reports of Captain Wm. Tonkin, and Captain W. T. Bryant, manager of the Blinman Mine, show that ten important lodes from 3 to 12 ft. wide, producing an inexhaustible supply of grey carbonate and sulphuret ores, have been worked upon in the Old and West Kanmantoo properties. The Kangaroo or Champion lode has only been worked 13 fms. below surface. It is 12 ft. wide, and estimated by Captain Wm. Tonkin to yield 15 to 20 tons of 10 per cent. ore to the fathom. Emily's lode is from 10 to 12 ft. wide, producing about 15 tons of 14 per cent. ore to the fathom. The extent and importance of these two lodes make them separate and important mines of themselves, from which alone large and profitable returns can forthwith be made. The certificate of the English and Australian Copper Company, of Adelaide, and Gracechurch-street, London, show that they purchased ore and regulus from the Old Kanmantoo Mine ranging from 30¾ to 37½ per cent.; for which they paid 52,250*l.*, and from West Kanmantoo Mine from 18¾ to 47¼ per cent., realising 9085*l.* The promoters especially recommend the enterprise, because inasmuch as the operations of this company will embrace mining and smelting by means of the Pacific water-jacket furnaces, now so successfully used in America, the sources of revenue will be two-fold, warranting the expectation of profits estimated at 20 per cent. and upwards on the proposed first issue of capital, because success is not dependent on working one mine, but from the large amount of ore contained in a group of mines. The produce sold has ranged from 18¾ to 47¼ per cent., and realised upwards of 60,000*l.* from ore raised near the surface, because South Australian copper commands in the market over 3*l.* per ton more than the copper procured in other countries; because a railway in construction will pass within a mile of the mines, reducing the expense of transit of mineral and stores to a minimum, thus enabling them to be worked at a profit hitherto unobtainable; because the produce whether as ore, regulus, or rough copper, can be sold to the English and Australian Copper Company at Adelaide at the price of the day, thereby saving the expense and delay of shipment to England; and because the purchase-money is taken in paid-up shares with the exception of 3000*l.*, which includes the preliminary expenses up to an allotment.

The Swansea Bay Graving Docks and Engineering Company, whose prospectus was advertised in last week's *Mining Journal*, has had an excellent reception from the investing public, and its subscription lists, are, it is reported, rapidly filling. As the last dividends paid by half-a-dozen similar enterprises ranged from 10 per cent. to 22½ per cent. per annum, the undertaking has, of course much to recommend it. It will have been seen from the company's prospectus that the trade of Swansea is increasing very rapidly and with greater strides than any port in South Wales. The Official Return of the Swansea Harbour Trust shows that the tonnage leaving during the year 1883 was 21 per cent greater than in 1881, and the increase for the year 1883 above that of 1882 is 9 per cent. On the construction of the Rhondda and Swansea Bay Railway, it is anticipated that the Prince of Wales Dock will be taxed to its utmost capacity in consequence of the large increase which will take place both in imports and exports, and it is well known to practical shipowners that even now there is an urgent necessity for a graving dock, especially of one of the dimensions which it is proposed to make. The Britonferry Harbour forms a portion of the Neath Harbour, now being considerably enlarged. The vessels entering the Neath Harbour in its former state, even in the absence practically of any wharfage accomodation, for the year ending March 31, 1882, numbered 1899; the tonnage of the vessels entering the port has increased 37½ per cent. during the last four years, and when the new floating harbour now in course of construction is completed, must greatly increase. This new harbour will have a floating area of upwards of 61 acres, and will be about 1½ mile long. From this additional accommodation the company feel confident of securing a very large amount of work. There is at present no graving dock of any kind in the neighbourhood, which includes the harbours of Neath, Britonferry, Port Talbot, and Porthcawl. The shipping trade at Britonferry Harbour is rapidly increasing, and it is anticipated that the Rhondda and Swansea Railway will further augment it. For several years past the necessity for a graving dock has been greatly felt. On reference to the Official Return supplied by the Statistical Office, London, it will be seen that the trade of Britonferry increased in the year 1822 at the rate of 17½ per cent. Special attention is called to the fact that the Waterloo Foundry, the Central Engineering Works, and the foundry and engineering works at Britonferry are going concerns, and consequently income will be immediately derived therefrom, which income the vendors will, if necessary, augment by such a sum as will enable the directors to declare a dividend for the years 1884 and 1885 at the rate of 5 per cent. per annum on the capital for the time being paid-up.

The Tuscan Copper Company, with a capital of 50,000*l.*, in shares of 1*l.* each, has been formed to purchase for 9250*l.* (of which 6000*l.* is taken in fully-paid deferred shares, and the remainder in cash) and develope the mining rights to two properties, having an area of several square miles, with extensive deposits of copper, situated in the neighbourhood of the City of Sienne, in Tuscany, which is about 75 miles from Leghorn. It is estimated that there are about 20,000 tons of mineral in the two properties; and taking this as containing only 20 per cent. of copper, which is much under the average of analysis, the present value of 10*s.* 6*d.* per unit, would be equal to 10*l.* 10*s.* per ton, or 210,000*l.* The ores which are at present found show from 16·32 per cent. to 31·32 per cent. of fine copper, and over 30 per cent. of sulphur; and the particulars of analysis given below show the average of a very large number of samples to be over 22 per cent. of copper. Shipments of the ore have been made at various times to Liverpool in order to test its value; and the following is an analysis of samples taken from small lots, which were merely dressed by hand, and the average of the results showed 20¾ per cent. of copper, the highest being nearly 16 per cent. The Cetini Mine, which is also in Tuscany, turns out about 140 tons per month, on which it is believed 6 per cent. of copper pays all charges; and as this company will have a larger property it should yield much more. The ore being now got out of this mine is said to show as much as 40 per cent. of copper, and is paying large dividends. Although it is extremely difficult at present to give a correct indication of probable profits, the estimate, assuming the ore to average 16 per cent. produce, and the outlay nearly 10,000*l.* a year, shows a profit of fully 27½ per cent. on a paid-up capital of 15,000*l.*, which, it is thought, will be sufficient for all prospective outlays. In this estimate no account is taken of the sulphur and other minerals found in the ore, and the average percentage of copper, as shown by analysis, is very much higher than 15 per cent.

La Fontaine Ardente, société de recherches de pétrole en France, with a capital of 1,500,000 francs, in shares of 5000 francs (each subdivisible into five coupures of 1000 francs each, has been formed for exploiting the Fontaine Ardente, 20 kilometres from Grenoble, in the department of Isère, and described by savants as one of the marvels of Dauphiné. The prospectus states that the unexceptionable indications justify the conclusion that those jets of flame which have sprung from both earth and water for thousands of years are supplied from a lake of petroleum. Moreover, the formations at the Fontaine Ardente are similar to those of Pennsylvania, which have been worked for petroleum. It is considered by using the gas for the illumination of Grenoble, Vizille, and the neighbouring localities, sold at only 5 centimes (½d.) per cubic metre, the annual revenue would equal the company's nominal capital.

The Ouro Preto Gold Mines Company are displaying good activity. It is stated that two of the directors, accompanied by their French mining engineer, Mons. Monchot, are now on their way from Europe, with a view to pay a visit to these mines, in order to organise the staff and make the necessary commercial and other arrangements for a vigorous prosecution of the works, as also to arrange with the superintendent the plan of the mining campaign, and to start the engineering operations for bringing an increased water supply to the mines necessary to drive the additional stamps and other machinery in course of erection. All the recent advices from the mines as to the quantity of gold available, and the cost at which it can be obtained, are highly favourable, and promise a brilliant future to the company.

Devon Consols, 3 to 3½; the general meeting will be held about the end of the month. The lode in the 205 east continues to yield 5 tons of copper and mundic per fathom, and the other portions of the mine are looking well.

Devon Great United, ⅝ to ¾, and in demand. The 104 fm. level, west of Willesford's, is worth 4 tons of copper ore per fathom, and some good quality of copper and mundic ore is being obtained at the 60 fm. level; 70 tons of ore have been sampled for sale on the 22nd inst.

Drakewalls, ½ to ⅝; good results are being obtained from the increased number of tributers at the mines, and augmented returns of tin are looked for.

East Wheal Rose have advanced 3-16ths, closing 11-16ths to 13-16ths; the 100-inch engine, writes a correspondent, went to work yesterday in grand style, and it may, therefore, be expected that some important details will be forthcoming ere long as to the increased rate of development. There are several features to warrant a still further upward movement. The market closes with a firm appearance.

Ecton, 1¼ to 1⅜; the manager reports that all is going on well at the various mines. At Swanslow Mine the vein is letting out a great deal of water; and, as several nice strings of copper have been met with, it is thought likely that a fresh discovery is near at hand.

Old Shepherds, 13-16ths to 15-16ths, an advance of 1-16th; the market is in a highly sensitive state, as it is generally known that they are within a few feet of the old workings, and it is hoped that the lode may be found standing intact, and as rich as before at this level.

Kit Hill, ¼ to ⅜; good progress has been made at the Great Tunnel level, which has been driven a total distance of 265 fms.

South Devon United, ¼ to ⅜; the lode in the 120 west maintains its size and value, being worth 16*l.* per fathom; and the lode in the winze sinking below the adit level looks well for the production of ore.

South Frances, 10½ to 11½, and have been in demand. The agent reports the lode in Pascoe's shaft below the 126 is for 12 ft. long worth 40*l.* per fathom, and other points of the mines looking well. The machinery throughout the mine is in good order, and the returns of tin are said to be satisfactory.

Asia Minor, ⅜ to ⅝; advices have been just received of a further consignment of silver-lead ore to Liverpool. The last parcel of this ore disposed of realised upwards of 17*l.* per ton.

Lisbon-Berlyn have been dealt in to-day at 1 to 1¼, being a rise of 5*s.*; a circular to the shareholders was issued on Thursday by Baron Albert Grant, stating that the directors have received telegrams from Mr. Crittenden, the company's chief mining manager, and from Professor M. Forster-Heddle. From Mr. Crittenden—"Am most satisfied with present outlook. Begin enlarging ditches this week." From Professor Heddle—"Prospects immediate neighbourhood very satisfactory; old workings, fine gold, mostly recoverable during our regular operations. Water supply unrivalled, ground configuration admirable." Telegrams have also been received by the directors that all the hydraulic machinery, 60 stamp mill, &c., have safely arrived by the Dabulamanzie at Durban, and are expected to reach the goldfields about June 15. The directors feel great satisfaction at the character of these telegrams, and they congratulate the shareholders and themselves upon the prospects of the company.

Ruby and Dunderberg, 1 to 1⅛; the weekly advices mention that only a small amount of work was being done at the Home Ticket Mine, owing to fresh difficulties with the miners; but some new arrangements were about to be made, which it is thought will satisfy them, and yet prove satisfactory to the company. There is not much change at the Lord Byron Tunnel; about 40 tons of high grade ore was ready for shipment. A contract had been made to connect the end of the tunnel with the cave, a distance of about 40 ft. When this is completed work in the tunnel will be facilitated, and can be increased in amount. In the Dunderberg a good find has been made by some tributers between the 400 and 500 ft levels. The telegram received this week again reported having snow: but, at this period of the year, it cannot last much longer.

South Australian Mines Corporation, ¼ to ⅜; at Blinman Capt. Bryant reports the stopes are yielding from 2 to 3½ tons of 25 per cent. ore per fathom. The average returns of late have been 30 tons of dressed ore per week, and with copper at a fair price this output of high percentage ore would yield handsome profits.

In Lead Mines shares there is absolutely nothing doing, the price of the metal continuing without improvement. Roman Gravels, 4⅛ to 4⅜; there has, it is said, been a further enquiry for these shares during the past week. The various points of operations at the mines are the same as last reported.

The list of applications for shares of the Tarrangower Australian Gold Mining Company (Limited) will be closed on Wednesday next for both town and country.

The Gold Coast Mining Company offices are removed from Poultry to Gracechurch-street, and Mr. James Thorne has been appointed secretary.

The Pitangui Company's produce for April was 950 oits. of gold, worth, at 8*s.* 6*d.* per oit, 403*l.* 15*s.*

At Tregontrees and Old Polgooth Consols on Thursday "Scholl's patent stamper was started at 5 minutes to 3, and up to time of writing, 5 P.M., has stamped 50 cwts. of fairly hard stuff, striking from 140 to 150 blows per minute."

The Alliance Bank has notified that they are now agents for the Alliance Bank of Simla, and requests holders of drafts and letters of credit issued by that bank on the Oriental Bank Corporation to present the same to them for payment.

BRATSBERG COPPER COMPANY AND NEDENÆS COPPER COMPANY.—Mr. Murchison, the Chairman of the Bratsberg Company, and a director of the Nedenæs, has just returned from a visit to these properties, of which he sends a full account, inserted on page 543 of this day's Journal.

OSCAR GOLD MINE.—The further most important discoveries recently made at this mine, as well as at other places on the same island, have added immensely to the interest attached to the undertaking. Its great success becomes daily more certain, and as a convincing proof that this is the case, a large number of influential Norwegians are joining the company, some of them to a considerable extent. The statutory general meeting is to be held at the office on Thursday next, when we understand that statements will be made of the most satisfactory kind. Mr. Murchison (the Chairman), and Mr. York (a director), who have just returned from the mine, will be present, and it is hoped that as many of the shareholders as possible will attend.

POLCREBO TIN MINE.—A correspondent writes that considerable demand has sprung up for these shares during the last few days on the cutting of Great Works lode rich in the 40, east of Highburrow shaft, and the near approach to the junction of the new lode, which has gone down rich in bottom of the 30 fm. level. In this same direction the 30 fathom level is coming near the Great Wheal Worthy caunter, which has proved very productive in the adit level, and a fine lode has gone down in the bottom.

WHEAL BENNY.—Another parcel of tin will be ready for sale in the course of a few days, and the directors are about to erect two of Messrs. Harvey's (Husband's) patent pneumatic stamps for pulverising and stamping the tin ore, and also a Blake stone-crusher as an auxiliary for crushing the ore from the four levels of this extensive property. This machinery, in conjunction with the present water stamps, will be of the capacity of 72 ordinary gravitation steam-stamps, and of sufficient power to put through 60 tons of ore per day.

NEW BROOKWOOD.—It will be seen by the announcement in to-day's Journal that this property, which adjoins the noted Brookwood Mine, has been acquired by a syndicate, and that nearly all the first issue of shares has been privately applied for. The recent rise in copper is auspicious for the undertaking, and it is stated that work has already been commenced.

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See Selected List published by S. JAMES, 14, Angel-court, London, E.C.

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80 Collacombe Cons., 5s.	100 South Caradon, 14s.	20 Flagstaff District, 1s.
50 D'Eresby Mount., 4s.	10 Sth.Condurrow,£37½.	100 Frontino, 17s.
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50 East Caradon, 4s.	75 West Caradon, 9d.	50 Kohinoor B, 4s. 6d.
50 E. Wheal Rose,13s.6d.	50 West Crebor, 2s. 6d.	50 Kapanga, 3s. 3d.
40 Frongoch, 10s.	80 West Gonamena, 6d.	50 La Plata, 6s 9d.
100 Gogiman, 2s 6d.	10 West Kitty,£12 16s.3d	50 Last Chance, 1s.
20 Great Laxey, 10½.	5 West Poldice, 11s. 3d.	50 Lisbon Berlyn, 13s 6d
50 Gunnislake (Clitters), 17s. 6d.	10 Wheal Basset, £3½.	20 Lisbon Berlyn, 13s 6d
	20 Wheal Coates, 3s. 9d.	10 Montana, 2s.
5 Great Holway, 25s.	30 Wheal Crebor, 34s 6d.	30 New Emma, 8s.
100 Grogwinion, 2s. 9d.	10 Wheal Jane, 1s. 6d.	100 Nouveau Monde,2s6d.
50 Home Mines Trust, 15s. 6d.	100 Asia Minor, 6s.	20 Organos, 23s. 9d.
25 Killifreth, 15s.	50 Akankoo (fully paid) 7s. 6d.	40 Orita, 16s. 6d.
50 Kit Hill Gt. Cnsls.,2s.	50 Birdseye Creek,16s.3d	15 Potosi, 3s.
20 Kitty St.Agnes,11s.3d	35 Bratsberg, 35s.	15 Port Phillip, 1s. 6d.
100 Mounts Bay Consols, 5s. 3d.	60 Cankim Bamoo, 6s.	10 Tolima A, 7½.
10 New Kitty, 31s.	25 Coplapo, £3.	40 Ruby & Dunder., 19s.
20 New Caradon, 2s. 6d.	55 California Gold,12s.6d	20 Richmond, 63s 9d.
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Notices to Correspondents.

COST-BOOK SYSTEM.—"W. F." (Durham): You will find all the particulars you require in "The Stannaries Act, 1869," by John Batten, jun., B.A., Barrister-at-Law. Published about 10 years since at 7s. 6d., by Messrs. Wildy and Sons, Law Booksellers, Lincoln's-inn Archway, London.

GYPSUM.—Will one of your numerous correspondents give me, through the *Mining Journal*, the following information respecting Gypsum? First, what is about the annual quantity made use of in the United Kingdom; and what proportion thereof is imported? In the next place, I would ask, what is the maximum and minimum price of this commodity, according to quality; and, lastly, what are the chief purpose to which it is applied?—W. H. B.: *Bristol.*

MINING IN NEW MEXICO—"W. L." (Hull)—We are not aware that any Anglo-American company is at present in operation for working mines in New Mexico; but there are plenty of minerals in the region, as well as in Chihuahua and Sonoro in Old Mexico. It is impossible to say when the United States will annex Mexico—probably never; but Mexico may ere long become one of the United States, or perhaps two or three States. Englishmen seem too often to forget that each State in the Union is a separate republic, so that it would rather be a question of admitting Mexico to the advantages of federation than of annexing. We do not know whether any Spanish is still spoken as the every-day language of the people in any part of California.

POWER OF ELECTRIC BATTERIES.—A battery consists of an ebonite box containing a shaped zinc-plate, in the hollow of which is placed a silver-plate packed round with chloride of silver and enveloped in parchment paper. A solution of caustic potash is filled into the cell. The poles, positive and negative, are formed by silver connections with the zinc and silver plates. A lid and cap cover up the mouth of the cell. The E.M.F. of the cell is 1·45 volts, and give C. 1 ampère for an hour, at the end of which time the spent solution has to be replaced. The drawback is the expense, for after three or four fillings with fresh liquor the chloride of zinc has also to be replaced, and this costs several shillings. Now, if copper and zinc and sulphuric acid be used instead what E.M.F. and what C. should I obtain? What book or pamphlet could you recommend on the subject?—N., *Derby.* [For a general outline of electricity Noad's Manual, published by Messrs. Crosby Lockwood and Co., will probably suit you, and for recent matters Routledge's translation of Du Moncel's book. It is published by Messrs. Routledge. Your other questions have been submitted to an electrician, who favours us with subjoined reply.]

POWER OF ELECTRIC BATTERIES.—Strange to say all the authors give the E.M.F., but not one of them trouble themselves with the C. (current in ampéres, or webers, old style). Clark and Sabine (Electrical Tables and Formulæ, page 99) give E.M.F. of Daniel: Amalgamated zinc in 1 sulphuric acid 4 water, and positive pole of copper in saturated solution of sulphate copper in water at 1·079 volt, with the proportion of 1 sulphuric acid and 12 water the same has an E.M.F. of 0·978; and the latter with the + pole in saturated solution of nitrate copper 1. Poggendorf gives 1 sulphuric acid and 49 water; poles zinc copper E.M.F. 0·824. Poggendorf and Becquerel—Copper and water acidulated with sulphuric acid, ordinary zinc 0·81; the same with amalgamated zinc 0·96. Reynier gives water 1000 volumes, sulphuric acid 2 vols., copper and ordinary zinc 0·94, copper and amalgamated zinc 1·072. From the above you see that if sometimes doctors differ the same may be said of electricians.

Received.—"T. A. M.": Delay is sometimes dangerous—"M. J. H.": Forwarded —"H." (Bernard-street): The new address of the company referred to is 72, Bishopsgate-street—"J. B. J.": Inserted—"T. E. B.": Ditto—"C W." (Worcester): Full attention was given to the matter last week—"T. T.": There is really no reason why your communication could not have been sent two days earlier; as it is it will probably be crowded out—"A. S." (Biarritz): You will find the Montana Company now quoted on the back page. The Stock Exchange granted a settlement, but refused a quotation—"T. N.": Instructions attended to—"H. H."—"E. A." (Kilburn): We know no one; your only course will be to advertise.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, MAY 10, 1884.

MINING LEGISLATION.

Speaking a week or two ago, as President of the Swansea Sailors' Association, Sir H. HUSSEY VIVIAN, M.P. for Glamorganshire, alluded to some of the mining legislation of the past in a manner which will scarcely be endorsed by many of the colliery proprietors of the country. Mr. VIVIAN is reported to have said that he believed a good Shipping Bill would be passed by the Government—one which would afford the maximum safety for the life of the seaman, with the least inconvenience to the shipowner, adding that so far as he was concerned he had not suffered any inconvenience either from the Mines Inspection Act or the Employers' Liability Act. We readily admit that this tribute of commendation of these two important Acts of Parliament, coming from a gentleman of Mr. VIVIAN'S experience, is deserving of every consideration, and doubtless will have due weight. They were evidently spoken with the very best intention, with the view to inspire confidence in the important measure then alluded to; but we fain believe this expression of opinion was given from the stand-point of a wealthy capitalist as well as large employer of labour, and without due consideration for the exigencies of the great bulk of our manufacturers who have not the wealth at command so fortunately possessed by Mr. VIVIAN. We readily admit that all legislation and all laws are made for the bad and not the good; and our contention is that the great majority of our colliery proprietors and our large manufacturers are "the good"—that they have the most zealous regard for the lives and safety of those in their employ, and that, therefore, they do not require the irksome official inspection and the very rigid laws which are enacted and which press so heavily in the competitive commercial and manufacturing race. We are very much afraid there is a growing tendency on the part of the Legislature to tighten the official cords which now surround our trade and manufacture rather than to relax them. We are handicapped by rules and regulations which are unknown in the workshops and manufactories of the Continental and American States. This prevents us to a great extent from successfully entering the markets of the world, and it is high time that our merchants and manufacturers more unanimously resisted any further legislative restrictions which may be attempted to be imposed upon them. Our Government is, in these modern days, becoming far too "motherly" in their dealings—they seem to be afraid to allow our colliery proprietors and manufacturers anything like free scope for the exercise of their calling, and hence hedge them in with unnecessary restrictions. The great majority of our manufacturers have thus to pay sad penalties for the *laches* of the few; and our national industries are hampered and their expansion prevented because some few might possibly be indifferent to the interests of their employees. Our rules and regulations for the management of our great industrial and manufacturing industries are made by men who have no practical knowledge of the questions upon which they legislate, and know nothing of the difficulties which they impose in the way of commerce. Instead of passing laws which tend to hamper and obstruct they should endeavour to free labour from every kind of restriction, and we believe the day will come when all restrictions on labour will be removed. It is said that "the man who makes two blades of grass grow where only one grew before is a benefactor to his country," and the same principle applies to every branch of our manufacturing and commercial industries.

Mr. VIVIAN says that he has not suffered any inconvenience from the operation of either the Mines Inspection Act or the Employers' Liability Act. We unhesitatingly accept the hon. gentleman's statement; but his experience is not that of the great body of manufacturers, nor indeed some of his own constituents, for only last week Mr. VIVIAN himself presented petitions to the House of Commons praying for amendments in the Employers' Liability Bill. In fact, scarcely a week passes but that vexatious cases are heard in our law courts for damages arising under this Act. We all know that the Act was condemned in no unmeasured terms by the late Baron BRAMWELL, one of the most able judges of the country. The vexatious annoyance foreseen by that learned judge received practical exemplification in scores of instances, but especially so in the celebrated case of the Earl of DUDLEY, who was sued by the widow of one of his miners for three years' wages, her husband having been killed in one of his lordship's collieries. In this case his lordship admitted his liability, and had even showed his anxiety to give effect to the operations of the Employers' Liability Act, for he had inaugurated a mutual insurance fund, he subscribing an equal amount to the aggregate subscribed by the workmen, and out of this fund all compensation for injury was to be met. The Judge of the County Court, who first heard the case, decided in favour of the plaintiff, contending that an employer had "no right to contract himself out of the Act of Parliament." This decision was appealed from, and successfully so; but it caused a good deal of vexatious annoyance and considerable expense. This and scores of other cases go to prove that the Act is not required. The old Act is sufficient to bring to justice any offender guilty of culpable negligence; whilst if accidents happen from causes which due and ordinary care cannot prevent then a mutual insurance fund (to which the employer and the employed proportionately subscribe) is the most equitable means of meeting the exigencies of the case. The Employers' Liability Bill has been a most prolific harvest for "the gentlemen of the long robe," but vexatious and obstructive to our staple manufacturers, and we venture to think there are but few employers in the kingdom but who would gladly see its repeal, agreeing with the famous axiom of Mr. BRIGHT—"Force is no remedy."

Speaking on behalf of the great mining and manufacturing interests of the kingdom we think the present agitation in reference to the Shipping Bill of the Right Hon. Mr. CHAMBERLAIN, as President of the Board of Trade, should teach a salutary lesson. There can be no doubt the persistent and well-organised opposition to that Bill has robbed it of many of its most objectionable features, and modified other provisions, which would have proved vexatious and irksome to the shippers. Our colliery proprietors and manufacturers do not appear to be so united in the prosecution of their common interests. We have about 150 members of the House of Commons, who are what may be called the representatives of the trading, commercial, and manufacturing interests of the country and their interests one would imagine are mutual, and for their protection and advancement unity of purpose is essential; yet in cases of moment and urgency we too often find our manufacturing and mining representatives like the proverbial rope of sand, destitute of cohesion and, consequently, power. If the same spirit of watchfulness, which now characterises the shipping interests, had been manifested by our colliery proprietors and manufacturers, many of the objectionable and irksome rules and regulations which are now in force would never have been passed. It is still necessary for our great manufacturers and colliery proprietors to be on the alert. Modern legislation is still tending to hamper trade and commerce by the imposition of additional restrictions; and if our manufacturers are true to their best interests they will do all they can to check this pernicious tendency, and to strike off many of the fetters which prevent the legitimate expansion of our trade and commerce, both at home and abroad.

THE NEW YORKSHIRE COAL FIELD—THE SOUTH KIRBY COLLIERY.

As the Hull and Barnsley Railway progresses towards completion increased interest is being shown in what is considered the eastern extension of the West Riding coal field, the limit of which has not yet been defined, despite some extensive borings carried on by means of the Diamond drill near to Goole. The indications, however, were most favourable, the conclusion come to being that in all probability the largest portion of the Yorkshire coal field would be found between Goole and South Kirby, seeing that at the latter place the well-known Barnsley seam has recently been reached at a depth of 634 yards, the shafts being the deepest in the West Riding. Should this prove to be correct then in what is known as the Lower Division of Osgoldcross there would be a new coal field of 58,000 acres, and in Lower Barkestonash an additional 34,000 acres, to be added to the Yorkshire coal field. The new South Kirby Colliery, indeed, may be said itself to mark a new coal field of 40 square miles, as yet untouched, but which in all probability will be extensively tapped when the Hull and Barnsley Railway is in working operation. The South Kirby Colliery is the deepest in the county of York, and the seam, as regards both quality and thickness, second to none. There are two shafts extensively lined with cast-iron tubbing, each being 15 ft. in diameter, and of an equal depth of 640 yards from the surface.

At such a depth all the seams above the Barnsley were gone through, the first being the Shafton, 4 ft. 11 in. thick, but with 4 in. of dirt partings sinking down the Kent seams were passed; then came other beds until, at a depth of 634 yards, the Barnsley seam was reached. It is of a thickness of 9 ft. 7 in., 2 ft. 9 in. being fine hard or steam coal, the dirt parting showing 7 in. The soft or top coal gives about 10,000 cubic feet of gas to the ton, 400 lbs. of tar and ammoniacal water, and has an illuminating power of about 16 candles. The coal is good for coking, giving something like 1500 lbs. to the ton. The hard coal, however, gives a larger quantity of gas, ammoniacal liquor, tar, and coke than the soft. The gas contains 4·5 per cent of olefiant gas of a similar composition, and is free from carbonic acid or sulphuretted hydrogen. It was generally thought that the Barnsley bed at South Kirby, if met with, would have been so attenuated and intermixed with dirt that it would not pay to work it. These anticipations, however, have turned out to be in every way incorrect, for it is proved to be what may be termed of more than ordinary thickness, and in quality equal to any met with in the Barnsley district. The sulphur in the soft coal gives 0·75 lbs. per ton, and from the hard coal 0·6 lbs. per ton. The surface arrangements are all that could be desired, there being the usual workshops and offices all being laid out in the best manner, whilst there is also a good engine-room. There are the usual drawing appliances, with wire-rope, cages, &c., all laid out for doing an extensive business and raising a large tonnage of coal daily. The engines for drawing consist of a pair of 42-in. cylinder with 9-ft. stroke, the nominal power being 400 horse for the two.

The motive power is obtained from some 10 or 12 boilers, each being 30 ft. by 7 ft. Great care has been taken as regards the ventilation, the old system being discarded, and for that purpose at the upcast shaft a powerful Schiele fan, with all recent improvements has been put down. It is 13 ft. in diameter, driven by a pair of 26-in. cylinder engines of 70 nominal horse-power each. When in full operation the fan will give upwards of 250,000 cubic feet of air per minute. It is said that the sinking and other work involved an expenditure of about 140,000*l.* At present there is a railway connected with the colliery, but the Hull and Barnsley line will, of course, place it in a better position, more especially for exporting the fine steam qualities now worked at South Kirby. The coal field of th latter is most interesting from a geological point of view, as giving the strongest possible evidence of their being a large undeveloped and practically inexhaustible field of coal to the south of Pontefract, and that to the east of that ancient borough valuable and extensive seams of coal will be found below the magnesian limestone—in all probability intersected for a considerable distance by the Hull and Barnsley Railway, and in that direction going some distance past Drax. The working of coal measures, such as are expected to be met with so far to the east, and under the magnesian limestone, would add immensely to the value of the known mineral wealth of the West Riding, give importance to some of the quietest rural districts in Yorkshire, and be of incalculable advantage to both Goole and Hull as coal shipping ports.

MINING ROPE COUNTERBALANCE.

The adoption of the Koepe system of counterbalancing a winding-rope at the Bestwood Colliery, Nottinghamshire, has caused many mining engineers to visit the place. Many inventions for balancing the winding-rope previously tried have given more or less satisfaction; but the Koepe system is claimed to have special advantages, since the usual drum may be dispensed with altogether by a simple sheave over the shaft. The main rope passes from one cage partly round the sheave, and is attached to a second cage, whilst another rope hanging below the two cages acts as a counterpoise. In fact, instead of being provided with a drum, the shaft of the engine simply bears a large pulley, and this at the Hanover Pit is 24 ft. in diameter, with a wooden rim with a deep groove in it. In the groove around the periphery is a steel rope about 1¼ in. in diameter, the two ends of which pass over the head gearing, and suspend the cages; the rope below is loose and free, the loop falling about 6 ft. into the sump, so that the apparatus may in reality be said to form an endless rope, only interrupted by the cages. The whole arrangement is in perfect equilibrium, in whatever position it may be, whilst the engine drives the large pulley alternately in each direction, and so raises and lowers the cages. The Hanover Pit, where the apparatus was first tried, is 256 yards deep, and the time of lowering the ropes 35 seconds. This arrangement, we believe, has been modified at one of Mr. KRUPP'S pits by placing the driving and engine pulley directly over the pit, so providing against breakage of the rope by two parallel side ropes running over loose pulleys. At Bestwood, it is understood, the system has given the greatest satisfaction, and is being introduced at other places.

SCOTCH PIG-IRON WARRANT MARKET.

Mr. W. WILSON (Glasgow, May 8) writes:—The Glasgow and Middlesborough iron markets are flat. Notwithstanding the reduced production both here and in Cleveland, it has been impossible to maintain prices. The firmness which characterised April disappeared with the approach of May, the Scotch Warrants are down 6d. per ton on the week. It is remarkable that with supply and demand now in healthier relations, and prices at an unremunerative figure, there is little inclination shown by investors to give that attention to iron which the circumstances warrant. This is probably attributable to the unsatisfactory state of things in business circles generally. Middlesborough stocks are down 8000 tons for April. Shipments are good for the week, and compare favourably. A furnace has been lighted at Clyde, and one at Glengarnock Works, making the number blowing 97: 295 tons were taken out of store here last week, while at Middlesborough no change was made. Business was done during the past week at the following prompt cash prices:—

Thursday, May 1.		Friday, May 2.		Monday, May 5.			
42/1¼, 41/11¼ ...		42/-, 41/10½, 41/11 ...		No market.			
Tuesday, May 6.		Wednesday, May 7.		Thursday, May 8.			
42/-, 41/9, 41/10 ...	41/3, 41/3½, 41/9, 41/3½, 41/9¼ ...			41/9, 41/10, 41/9			
	1884.		1883.		1882.		1881.
Price of Scotch Warrants, May 6 ...	41/10½	...	47/5	...	47/1	...	46/9
Furnaces in blast in Scotland do. ...	97	...	114	...	108	...	122
Iron in store at this date	592,639	...	580,909	..	634,451	...	554,036
Shipments of Scotch pig-iron for week ending May 3	15,233	...	13,198	...	11,387	...	9,461
Do. since beginning of year.....	189,210	...	203,962	...	213,246	...	179,792
Price of Middlesbro', No. 3, May 6...	36/9	...	40/	...	42/9	...	37/
Furnaces in blast Middlesbro' dist.	101	...	120	...	119	...	119
Middlesbro' Iron Imported at Grangemouth, week ending May 3	4,373	...	4,240	...	1,360	...	3,705
Do. do. since beginning of year ...	93,078	...	90,332	...	87,807	...	102,807

INTERNATIONAL HEALTH EXHIBITION.

The Annual International Exhibition opened at South Kensington on Thursday promises to be as useful, interesting, and successful as that of last year, and although the name of the Exhibition does not indicate any close connection with mining it will be evident from a single visit that the preservation and promotion of the health of the miner has received their fair share of attention. There are miners' dries, improved and more salubrious safety-lamps, electric apparatus for application to mines, and various other matters of paramount interest, but for the present a general notice of the Exhibition as a whole will be more acceptable than to commence at once with the dry details of the purely technical exhibits. As a pageant the opening ceremony was a very tame affair, the reception of the Duke of Cambridge (representing H. R. H. the Prince of Wales) by the Council being much less formal than that at an ordinary conversazione of a scientific society, and no robes being worn except by the Lord Mayor and Sheriffs; the applause was nowhere enthusiastic, and in some parts of the route the hissing of the Premier was so hearty as to almost overwhelm the more agreeable form of reception. Probably the most interesting feature on the route chosen from the grand entrance to the dais was the little segment of Old London, representing Cheapside as it appeared before the destruction of the City by the fire of 1666. This is the work of Mr. Birch, of the Society of British Architects, and has been carried out with really amazing skill and completeness. On entering this vivid representation of a piece of vanished London the visitor will require little aid from his imagination if he strives to believe that he has suddenly fallen upon some antique town. The houses are scarcely smaller than must have been those which they are intended to represent. Bishop William the Norman looks down on these quaint, gabled buildings from a niche in the entrance archway. On either side the houses rise in tiers, the upper storeys resting on corbels, which for the purpose of show are quite as good as those which they are designed to represent. The garlanded thoroughfare, the sound of the trumpets, followed by the merry peal (by the Criterion Hand-bell Ringers) which rang forth from the church steeple, was most

attractive, although there is still much to do to complete the model That such apparent solidity and antiquity can be given to lath and plaster, hurriedly put together in the course of a few weeks, is really marvellous, and it will be equally marvellous if this Old London does not prove a very great attraction to visitors generally.

The procession having at last reached the dais in the Central Gallery, the real business of the opening ceremonial was speedily disposed of. The Duke of Buckingham and Chandos, as Chairman of the Executive Council, described the object of the Exhibition in a suitable address, to which H.R.H. the Duke of CAMBRIDGE replied:—My lord duke and gentlemen, I have had no hesitation in assenting to the wish of his Royal Highness the Prince of Wales and of the Council, that I should on this occasion occupy the position which he would have filled but for the sudden and lamented death of his Royal Highness the Duke of Albany. I know that I express the feeling of the Prince of Wales, as well as my own, when I assure you of my hearty desire for the complete success of this great International Exhibition. No design can be more worthy of encouragement than the earnest and costly endeavour here made to promote the good health, which is one of the first conditions necessary for the happiness and prosperity of a nation. Every year shows us more clearly the vast extent of misery and the loss of working power which are due to disease, which might be prevented by a better observance of the rules of public health. Much has been done by charity, by science, and by legislation to diminish the effect of these diseases; but I think we must all feel that what is still most desirable is that people of all classes should know how they may help themselves and their neighbours to prevent the risk and injury to health to which they may be exposed. This most useful knowledge may be acquired by the study of the objects displayed in your exhibition; and I gladly express my warm approval of the great variety of means which you have provided both for the attraction of visitors and for their instruction. You will give great gratification to the public by the utility and the beauty of many of the objects displayed; and it may justly be hoped that few will leave the Exhibition without having acquired some useful knowledge, either by their own observation, or by the instruction they may gather from the lectures, and by their study of the handbooks. I am also glad of the opportunity which the conferences and the display of the most scientific means of investigation will offer for the discussion and research of the best methods still to be adopted for the improvement of the public health. It speaks well for this Exhibition that you have been able to enlist in its promotion so large and influential a body of gentlemen as you have mentioned. I tender to them the thanks of the President in addition to those which you have already expressed. The assistance given by the City of London and by the Guilds, proves not only their liberality but their conviction that a great public good will be attained by the Exhibition, and especially by that part of it which is devoted to the promotion of technical education. (Cheers.) Next to the working power which is supplied by good health, I consider that nothing contributes more to the wealth of any nation than the proper guidance of such power by judicious training. It will be an admirable result of your Exhibition if it proves, as I think it must, the great advance already made in education; and if it thus encourages a more earnest and persistent study of the best methods of work in every department of life. On my way to this gallery I have seen enough to justify me in congratulating you on the measure of success which you have attained in the collection and arrangement of the immense number of objects exhibited. Considering the vast extent of the plan and the shortness of the time in which it was to be completed, the result already attained appears to me highly satisfactory. A feature of this and similar exhibitions, which, I think, should be constantly borne in mind, is that it is international. From this we may hope that one of its advantages may be derived. It is certain that the promotion of health and education is a source of blessing to all nations. The knowledge which one nation possesses is, by exhibitions such as these, made accessible to all; and although this may be attended with competition and mutual rivalry, yet it need not produce hostility, but should rather promote mutual respect and goodwill; so that when I repeat to you my earnest wishes for the prosperity of the Exhibition, I feel that I am encouraging, at the same time, the blessings of peace and concord among all nations. It is with the earnest hope that this may be among its good results, that I now declare this Exhibition open.

The band then struck up the first few bars of the National Anthem, and the Royal party shortly afterwards left the building, the formal inauguration of what will doubtless be one of the most successful of the series of exhibitions held under the same auspices having been completed. It has already been mentioned that the details of the technical exhibits immediately bearing upon mining will be reserved for a future notice, but in the meantime attention may be directed to the East Central Gallery, wherein will be found ample to interest the miner. There the Electric Power and Light Contract Agency, of Gracechurch-street, exhibit apparatus for the electrical discharge of blasting shots in mines from a distant firing station. Messrs. Bickford, Smith, and Co., of Tuckingmill, have their patent safety fuses and patent igniters and instantaneous fuses for mining purposes. Messrs. John Davis and Son, of Derby, show miners' safety lamps, miners' dials; anemometers, for ascertaining the current of air in mines, sewers, furnaces, ventilating apparatus, &c.; theodolites and levels, fitted with the Hoffmann patent tripod head for instantaneously setting up and levelling the instruments; telephones, colliery electric signals and bells, dynamo electric exploder for blasting, pit barometers and thermometers, self-recording barometer or barograph, and self-recording thermometer or thermograph, among other things. Mr. W. Rosewarne, of Wheal Sisters, Lelant, and Mr. W. T. White, of West Wheal Peevor, Redruth, both exhibit illustrations of miners dries, or houses wherein the miners change their wet clothes when they come from underground.

Mr. Stanley, of Railway Approach, London Bridge, has an excellent collection, including electric bells, anemometers for registering air currents in mines, and so on. The reliability of all Stanley's instruments is so well known to all draughtsmen and professional men that his stall is not likely to be passed by without notice. In the same gallery, although in another class, Messrs. Clayton and Shuttleworth, of Lincoln, show a model of a good safety drum guard, and close by it Messrs. Schaffer and Budenberg, of Manchester, have a collection of steam pressure hydraulic and vacuum gauges, counters, safety valves, steam-engine governors, steam-engine indicators, steam traps, safety plugs for boilers, thermometers, barometers, safety lamp for coal mines, water meter, &c., all having either a direct or indirect connection with minimising danger to health (and life) from carrying on certain trades. The Compressed Lime Cartridge Company show lime cartridges and tools for blasting purposes, as well as drills, pumps, tubes, &c., used in connection with their process. Mr. John Large, of Chippenham, apparently an amateur, has a model for the prevention of accidents in going down and coming out from mines, lifts, &c., also tin tubes for 9 in. shafts to prevent explosions, and the model of a safety railway platform Messrs. Andrew Knowles and Sons, of Pendlebury, exhibit Owen's patent safety cage, one of the cheapest and most efficient apparatus of the kind that has been introduced.

Another important exhibit is that of the Saville-street Foundry and Engineering Company of Sheffield; they have one No. 13 Baker's rotary pressure blower, for ventilating buildings, removing dust from grinding-rooms, and supplying blast to furnaces; one No. 3 Baker's rotary gas exhauster, for moving gases, sewage, and the like; and one size C of Baker's rotary pump for sewage, drainage, and irrigation works generally. The Blackman Air Propeller Ventilating Company have also a good exhibit—four Blackman air propellers, 48 in., 36 in., 24 in., and 16 in. diameter, manufactured by exhibitors. A new mechanical ventilator constructed on an entirely new principle, for the movement of any quantity of air with a minimum of power adapted for either exhausting from or discharging into any building, and can be placed in any position. The 48-in. propeller will move 35,000 cubic feet of air per minute with two horse-power; can be applied for removing dust, steam, smoke, gases, or vapours, &c., and drying or cooling a great variety of manufactures, with or without heat. One apartment ventilated by a 48-in. propeller blowing in, and a 36-in. propeller exhausting, and discharging through a turret fitted with air split. One 16-in. propeller discharging into apartment through distributing apparatus, and driven by electro-motor from current lighting exhibition or galvanic battery; may be arranged for hand, water, or other power. Mr. A. H. Kuhlmann has a double lever cement testing apparatus, complete for testing the strength of cement. Various ingenious contrivances are shown by Mr. James Howorth, of Farnworth, near Bolton; they include Lacy's patent humidifier and Howorth's patent air-heating or cooling chest combined, for weaving-sheds, spinning-rooms, and other buildings; a patent air inlet, for heating or cooling and moistening air; a horizontal exhaust and blowing ventilator; a new patent "radial" screw ventilator; "radial" screw ventilators, for preventing down-draughts and sulphurous smells in chimneys; a patent revolving Archimedian screw ventilator; a revolving Archimedian screw ventilator, improved and manufactured by the exhibitor, for preventing down-draughts and sulphurous smells in chimneys; a chimney breast valve ventilator, for ventilating rooms of all descriptions by means of the flue from the fireplace; a draughtless air inlet, for admitting fresh air with the least possible amount of draught; and a new patent air inlet and heater combined, for heating the air before admitting it into buildings. It should have been stated that all these are in the Western Gallery. It may here be mentioned that the gable ends of the Exhibition Buildings have been painted and decorated by the United Asbestos Company, of London and Birmingham. The paint employed is non-poisonous, and of similar character to the fireproof paint supplied by the same company, and used for the general protection of the Exhibition buildings against fire. The material employed is the specially fine "asbestos" obtained from the company's mines in Italy. It is free from all poisonous or noxious ingredients, and is at the same time the most powerful resistant of acids or acid gases.

Two of the well-known Otto gas-engines are lent by Messrs. Crossley Brothers, of Manchester; they are placed in the Aquarium pumping-station, where they have been working continuously night and day since April, 1883. Also an 8-horse power Otto gas-engine with shafting, &c., in the Bakery Annex. These Otto engines are worked by ordinary lighting gas, and dispense with the dangerous boiler, and unsightly and dirt-diffusing chimney, and the costly attendance of a steam-engine and boiler; moreover, they can be started at a moment's notice. From a Health Exhibition point of view these engines are interesting, inasmuch as they represent the solution of the smoke nuisance difficulty, so far as the application of motive power is concerned. They are made from ½-horse power to 100-horse power, and can be worked with an economy as yet never touched by steam of equal power, The illumination of the building by electricity having given such great satisfaction last year, has been again arranged for, and the exhibits and loans connected with it are certainly most interesting. The supply of engine and boiler power necessary for working the vast system of electric lighting throughout the whole area of the Exhibition has been provided by Messrs. Davey, Paxman, and Co., engineers, of Colchester. The engines are of splendid construction, and their power is greater than that of any display of electric lighting which has yet taken place, it being much larger than that supplied so successfully by Messrs. Davey, Paxman, and Co., for the Fisheries Exhibition last year. The steam-engines provided for this purpose are six in number, being all double cylinders. The two largest engines are capable of developing 750-horse power. Nos. 1 and 2 engines are of the coupled horizontal type, and provided with Paxman's patent automatic cut-off gear, worked direct from the governers, so as to ensure very steady and even running. The cylinders are all steam jacketed. No. 3 engine is of the compound receiver type, indicating 200-horse power. It is fitted with Paxman's improved system of valves. The crank-shaft is of steel in one piece. The cranks are at right angles, and accurately balanced. All parts of engine possible are made of steel. Great care has been bestowed upon the design of this engine. The automatic valve gear is as described above, and with condenser and good generators this engine will work with 2 lbs. of coal per indicated horse power per hour, and run very smoothly and with great steadiness. No. 4 engine is of D., P., and Co.'s semi-fixed compound type of 120 indicated horse power, and is precisely the same as No. 3 engine above described, but with locomotive boiler placed above the engine. No. 5 engine, a semi-portable, capable of being worked to 80 indicated horse power. This engine—like the above-named—is provided with Paxman's patent automatic valve gear and governors. No. 6 engine is a double cylinder semi-fixed engine, built in a wrought-iron frame, and it is capable of being worked up to 100 indicated horse power.—Steam-boilers: A nest of six large boilers, of the locomotive type, is fixed between the two large coupled engines for supplying them with steam. The whole of these are made to work at 100 lbs. steam pressure. The fire-boxes are of D., P., and Co.'s improved mild steel, which has given such good results. Two similar boilers supply steam for the large compound engine. The remainer of the boilers are of the same kind, but attached to the engines. Altogether nearly 1300 indicated horse power is provided for.

The engine supplied by Messrs. Galloway and Sons, of Manchester, is of the compound type, having two cylinders alongside one another, the pistons being at almost opposite ends of the stroke, which ensures great steadiness of turning. The proportions of the cylinders are as 1 to 3, the high-pressure being 14 in. diameter and the low-pressure 24 in. diameter, both having a stroke of 2 ft. 6 in., working on to crank-shaft which carries fly-pulley for transmitting the power by means of strap. The valve motion is that known as the "link," the valves being plain flat plates actuated by block moving in quadrant, which cuts off the steam in proportion to the work upon the engine maintaining a constant lead. The governor is on their patent powerful "parabolic" system, which gives great steadiness of turning. A condensor is usually placed in rear of the engine, the air-pump being double-acting, worked by continuation of low-pressure piston-rod, and the whole is mounted on strong bed plate. The boilers are of the usual Galloway type, 1875 patent, made of steel throughout, 26 ft. long, 6 ft. 6 in. diameter, suitable for carrying 85 lbs. pressure, and are constructed with every modern improvement, both in design and workmanship. The holes are drilled by special tools, and machinery made use of wherever possible. A full set of fittings is supplied with each. These boilers provide all the steam required throughout the Exhibition.

The well-known firm of Hepburn and Gale, of Long-lane, Southwark, supply the main leather driving band, conveying the motion from the 125-horse power Galloway engine to the whole of the Exhibition. This is a double belt, 73 ft. long by 18 in. wide, and is sewn by hand; the same firm supplied the two 11½-in. double belts, carrying the motion to the counter shafts. In making these belts one centre strip only is taken from the back of each hide, so that there are consumed in the three belts the prime of the hides of about 100 oxen. Mr. J. C. Humphreys, of Knightsbridge ("Old Corrugated Humphreys" as the workmen familiarly designated him), who built the Royal Pavilion, has been officially appointed sole contractor and builder to the Health Exhibition for the whole of the iron buildings; these are all fireproof, and have been erected on Humphreys' portable principle—easily taken to pieces, and re-erected any distance; specially suitable for churches, schools, club and reading rooms, having great heights for ventilation, also as workshops, coach houses, stables, and so on. Iron buildings have already been frequently employed about mines, and it is probably only because so little trouble is taken to bring their advantages to the notice of directors and mine managers that their adoption has not been much more general, as they are comparatively cheap, durable; and readily erected.

Whether electric illumination will ever come into general use in England as a light for surface work about mines, although it is extensively so employed in America, may still be a moot point; but at the International Health Exhibition there will probably be better opportunities for judging of the relative merits of the several systems than could be hoped for elsewhere. The Anglo-American Brush Company have in the East and Western Annexe 16 arc lamps, Brush double pattern, driven by one continuous current Brush machine. In the Vegetarian Buffet there are 80 incandescent lamps, driven by one continuous current machine, Victoria type. This latter is driven by a Tower spherical direct action engine. The British Electric Light Company have in the West Central Gallery eight arc lamps of 2000 nom. cp., and two arc lamps of 3500 nom. cp., driven by one E gramme machine, excited by an A gramme, and two A grammes, driving single lights. In the Electric Machinery Shed, there are eight arc lamps, of 2000 nom. cp., driven by one E gramme machine, excited by an A gramme. There is in Doulton's Ceramic Pavilion one Gérard continuous current dynamo, driving 20 100 cp. incandescent lamps. There will be found in the East Gallery two No. 4 machines driving 40 arc lamps, Gülcher system. All these lamps are in parallel arc with rheostatic balance, which is a feature of the Gülcher arc-lighting system. The lamps have a nom. cp. of 500. The Dairies are lit by 350 Crooke's incandescent lamps, arranged in parallel arc, and worked by four No 4 Gülcher machines. In the Aquarium, West Arcade and West Dining-rooms there is one Ferranti alternating machine, driving 1000 Woodhouse and Rawson 50 volt 20 cp. incandescent lamps, arranged on four compound parallel circuits of double series each—the dynamo having an E. M. F. of 400 volts. For the West and East Quadrant, East Arcade, Third-class Dining-room, and Exhibition-road entrance there is one 40-light Brush continuous current machine and 40 lamps, double Brush improved pattern. For the South Central Gallery, Central Avenue, part of East Central Gallery, and part of West Central Gallery there are 80 Jablochkoff candles, arranged in pairs for 40 lamps, each of 500 nom. cp., worked by four Jablochkoff-Gramme self-exciting alternating dynamos and 250 incandescent lamps of 20 cp., lighting interior rooms in East Central Gallery, worked by one Jablochkoff-Gramme self-exciting alternating dynamo; also one 10 M machine, supplying light to Varley exhibit in the small corridor. This comprises 20 arc lamps of Varley's patent flexible carbon. There are 1000 Woodhouse and Rawson lamps, 50 volt, 20 cp., on the Ferranti machine of the Hammond Company, and distributed through the Aquarium, Western Arcade, and West Quadrant Dining-rooms; 250 ditto in East Quadrant Smoking-room, on Hochausen machine; 75 ditto, lighting one-fourth of the Water Pavilion; 50 ditto, 20 volts 10-candle power, in the Conservatory of the Prince of Wales's Pavilion, through Messrs. Dick Radclyffe and Co.'s decoration.

But to refer to all the interesting exhibits which the readers of the *Mining Journal* would like to examine would be an almost endless task, they may therefore be recommended to visit the Exhibition and judge for themselves; it would be unjust, however, to close this notice without recording the fact that, although doubtless much remains to be done to complete the Exhibition, the whole arrangements are highly satisfactory, and reflect the highest credit upon the Executive Council, and especially upon the secretary, Mr. Edward Cunliffe Owen, B.A., upon whom a large share of the more laborious work necessarily falls.

BRATSBERG COPPER COMPANY.

BRATSBERG COPPER MINES.

April 28.—Having just spent several days at these mines, it may be interesting to the shareholders to receive from me the following statement of facts:—On the first day I went over the principal portion of the surface works. The machinery for compressing air to supply the motive power to the rest of the machinery on the mines, is certainly a wonderful contrivance both as regards complete efficiency and cheapness. The fly wheel weighs 6 tons, the fly and driving wheel 7 tons, and the turbine wheel 2½ tons. The two former were each in two pieces (two of 3 tons each and two of 3½ tons each) when brought on the property, and it must have taxed to the utmost the indomitable energies and the sagacious arrangements of even Capt. Daw and his sons, to have had them transported over the lofty mountains of Bandagslie and Gaaskjon. This machinery primarily does all the pumping, and will be equal to any depth the workings are likely to be carried. In addition to this, it supplies the power to three boring machines, two small pneumatic winding engines, and one Tangye pump, all underground, at distances varying from 350 to 470 fms., the compressed air being conveyed in each case by pipes. Only a portion of the water power has been made available for this machinery, but even of that at command not more than one-sixth is used, so that there is an immense reserve, a part of which will be required for the two large winding engines about to be set to work, two more boring machines, and by-and-bye at Næsmark. The whole of this motive power costs the company nothing beyond the wages of one man, who is also employed at the lathe, and, of course, a little oil, &c.

The dressing machinery consists of one of Blake's 15 by 7 in. stone breakers, two large crushers, 11 patent automatic jiggers, with complete sizing apparatus, and four buddles, all of the most efficient character, and so arranged for the most economical treatment of the ores that I doubt if any other copper works can boast of such. An extension of the dressing-floors can be made at a small expense. There are two excellent smiths' shops, a carpenter's shop, two first-class saw mills, and assay office, and all other requisite buildings. The whole of these surface appliances for returning the ores are under cover, so that operations can be carried on during winter.

On the following day I went into No. 2 adit to the end, which is full 400 fms. long on the course of the Hoffnung lode. At about 150 fms. I came to the site where the wooden building for one of the large winding-engines was being erected at Murchison's shaft. This engine is expected to be completed in about two months. About 100 fms. further I arrived at York's shaft, where the building and the engine are all completed, and I saw the latter put to work, and it performed its duty very smoothly. The skip-road will be finished in about eight days, when everything here will be in full operation. This point in the adit is about 60 fms. from surface. Both these engines will be worked, as above stated, by the compressed air from the turbine. The loss in friction from the long distance does not exceed 1 per cent., owing to the large diameter of the pipes and the air in the mine being warmer than outside. For a long distance in this level there is a rich lode, and in the end it is being driven by a boring machine, which I saw in operation. I also went into No. 3 adit, which is also about 400 fms. in length, but owing to the slope in the hill the end is about 60 fms. behind No. 2 adit. In this level also there is a long course of ore, and a boring machine at work in the end, which is being pushed on with all speed to enable a communication to be made with a winze coming down from No. 2, which will improve ventilation, and render a large quantity of more ground available for stoping.

Murchison's shaft is sunk 40 fms. below No. 3 adit. There are levels at 25 fms. east and west and at 40 east and west, but these are necessarily suspended till the drawing-engine is at work. In all these levels the lode is very good. York's shaft is down about 40 fms. under No. 3, and levels are being driven west at 10 and 25 fathoms, and there are stopes at work in a very rich lode. The sinking of both these shafts will be resumed shortly. An adit level has been driven east of cross-cut about 80 fms. on Johannes' lode; the greater part of which has been productive. They are now driving west with a boring-machine, and though the end at present is not so good, yet, having in this direction a good lode at surface, they look for a great improvement in a short time. There are several stopes in the back of this adit, which are yielding well, and there is a great deal of ore ground opened here to last for a long time, as there are 75 fms. of backs. The total depth of the workings on Hoffnung lode is about 125 fms. from surface at the shaft, and on Johannes' lode about 75 fms. Including the drivings in Nos. 2 and 3 adits, and in the levels between and below them, the quantity of new ground being opened monthly is about 300 fms., which will be increased when the dead works at present in progress are completed. The average quantity of ground stoped away averages under 200 fms. per month; and as the operations progress both the available resources and the output will be considerably increased.

There have already been received and sold in England for the current year about 400 tons of rich copper ore, and at this date there are about 400 tons more ready to be sent away. This time last year no ore had arrived in England, nor had even been dressed. I need only farther mention that in the course of this year some operations will be commenced at Næsmark, the ore formerly returned from which was very rich. The other valuable mines of the company remain to be dealt with hereafter.

To have anything like a correct idea of the company's possessions, the mode in which its operations are carried on, and its affairs con-

ducted, can only be derived by a personal visit and by ocular demonstration. The success of the undertaking depends as much on the judgment, ability, experience, energy, and the knowledge of the language and customs of the country possessed by the managers, as on the inherent and substantial merits of the properties, and these the company are fortunate in enjoying to the fullest extent.

J. H. MURCHISON, Chairman.

NEDENÆS COPPER MINES.

Mr. Murchison, one of the directors, spent some time last week at these extensive and important mines, and sends the following statement respecting them. The company possesses two distinct large freehold properties, each from 2 to 3 miles long on the course of the lodes, by about half a mile wide, and covered with fine timber. The copper mine property is about 10½ miles from the flourishing seaport town of Arendal (Norway), and of that distance about 7 miles is an excellent public road, then a mile by a good road belonging to the company, and finally 2½ miles to the works at Skytmur by the company's railway (worked by locomotive), which goes on further to Boilstad, 1½ mile. The machinery (including seven steam engines, the best description of dressing arrangements, &c.) is very efficient, and in good order and condition. There are three mines opened, extending over a length on the main lode of about 1½ mile. They have already yielded a large quantity of copper, and a great deal of good ore ground is ready to be taken away. This will be rapidly and immensely increased by the aid of the boring machinery about to be used. The calcining furnaces will at once be proceeded with, and they will be the means of raising the ore to a high percentage at a small cost. It will not be necessary to dress the ore thus treated, and this expense will, therefore, be saved. There are large heaps of stuff already at surface, in which I saw much copper ore waiting to be returned for sale as soon as the furnaces are completed. At Skytmur the lode has doubled in value in sinking from the 75 to the 90 fathom level, and here drivages will be extended east and west in a rich lode. At Sletne the lode is very productive, and the shaft will be at once sunk deeper; while at Boilstad the workings down to present depth of 62 fathoms give satisfactory results. There is a north lode which has been opened on at different places at surface, and produced fine copper ore, estimated at the unusual value of 4 tons per fathom. A cross-cut has been driven towards this lode at 50 fathoms deep, and is within a few feet of reaching it. Next month this point will likely be realised, and I have little doubt will be of such importance as to greatly enhance the value of the property. I am bringing with me samples of the copper from the several mines, so that the shareholders and others may inspect them.

The Mesel property is about five miles from Arendal, and is covered with one of the finest forests in the South of Norway. Nickel and other minerals have been discovered; and altogether this will probably become a very valuable asset of the company. Mining in this land of the Norse has hitherto been very successful for the extent carried on, as witness the Kongsberg (silver), Bratsberg (copper), Röraas (copper), Banile (apatite), Evje (nickel), Senjen (nickel), Modums Works (cobalt), Ringerriker (nickel), Eidsvold (copper), Visgnes (copper), &c., the last named alone having been sold about two years ago for 16,000,000 frs. (640,000*l.*). The Nedenæs Copper Mines are an extensive going concern, with a splendid plant, and they possess all the elements to lead to another great success. With the continued support of the shareholders I am firmly convinced they will in a comparatively short time hold a position second to none even in the rising prosperity of the mining industry of Norway. Capt. Daw, of Bratsberg, holding an interest in Nedenæs Mines, will give his valuable aid and assistance in carrying on the undertaking, while it is not possible to over-rate the advantage of the active management of his able son, Capt. John Daw, jun., who has an intimate knowledge of the properties, and has had long and extensive practical experience in the country, and is well acquainted with its laws and customs.

PRINCIPAL COPPER PRODUCTIONS.

The subjoined tabulated statement, compiled by Messrs. HENRY R. MERTON and Co., will be of interest to all connected with the production and use of copper:—

	1883.	1882.	1881.	1880.	1879.
Algiers .....Tons	600*...	600*...	600*...	500*...	500*
Argent. Republic	293 ...	800 ...	307 ...	300*...	300*
Australia	12,000*...	8,950*...	10,000 ...	9,700 ...	9,500
Austria	500*...	455*...	455 ...	470 ...	245*
Bolivia—					
Corocoro.....	3,250*...	3,259 ...	2,655 ...	2,000*...	2,000*
Chili	41,099 ...	42,909 ...	37,989 ...	42,916 ...	49,318
Cape of Good Hope—					
Cape Cop. Co..	5,000 ...	5,000 ...	5,087 ...	5,038 ...	4,328
Canada	329 ...	221 ...	50 ...	50*...	50*
England	3,000*...	3,464 ...	3,875 ...	3,662 ...	2,462
Germany—					
Mansfeld	12,643 ...	11,516 ...	10,999 ...	9,800 ...	8,400
Other German..	1,220*...	1,743*...	1,743 ...	1,000 ...	600*
Hungary	1,000*...	976*...	976 ...	976 ...	976
Italy	1,600*...	1,400*...	1,480*...	1,380*...	1,140
Japan.....	2,800*...	2,800*...	1,900*...	1,900*...	1,900*
Mexico	489 ...	401 ...	333 ...	400*...	400*
Newfonndland—					
Betts Cove ...	1,053 ...	1,500 ...	1,718 ...	1,500*...	1,500*
Norway—					
Vigsnaes	2,340 ...	2,300 ...	2,350 ...	2,040 ...	2,000
Other Norwgn.	290*...	290*...	290 ...	386 ...	412
Peru	395 ...	440 ...	615 ...	600*...	600*
Russia	3,000*...	3,000*...	3,000*...	3,081*...	3,081
Sweden	800 ...	798 ...	995 ...	1,074 ...	800
Spain and Portugal—					
Rio Tinto	20,472 ...	17,389 ...	16,666 ...	16,215 ...	13,751
Tharsis	9,800*...	9,000*...	10,203*...	9,151*...	11,324
Mason & Barry	8,000*...	8,000*...	8,170*...	6,603 ...	4,692
Sevilla	2,206 ...	1,885 ...	1,340 ...	1,705 ...	1,360
Portugueza ...	2,357 ...	1,700 ...	1,410 ...	1,000 ...	770
Poderosa	1,000*...	800*...	800*...	800*...	800*
United States ...	52,080 ...	39,300 ...	30,882 ...	25,010 ...	23,350
Venezuela—					
New Quebrada	4,018 ...	3,700 ...	2,823 ...	1,800 ...	1,597
Total	193,454 ...	174,596 ...	159,711 ...	151,057 ...	149,156

Those marked * are estimated.

PROFITABLE MINING—A GREAT SUCCESS.

SIR—It seems almost strange that while frequent notice appears to be given in the columns of the *Mining Journal*, by correspondents and others, of mining companies which are more or less deserving of attention, it is seldom that a single line beyond the bare publication of the monthly reports—which are very long, it is true—is to be seen with reference to the success of the Tolima Mining Company, and however interesting such reports may appear to shareholders and those having technical mining knowledge, it may be taken for granted that they are seldom understood or even perused by the general body of the investing public. It is seldom, in fact, that so much as a dividend notice appears respecting this company, and even this small particle of information might prove useful to some of those having the wherewithal to make an investment, and who are always on the look out for a good thing. These remarks are induced by the somewhat anomalous discrepancy between the market price and what appears to me the intrinsic value of Tolima shares.

The Tolima Mining Company is in 20,000 shares of 5*l.* each—say 100,000*l.* Since it was floated, some 12 or 13 years ago, it has raised and sold something like 150 tons of pure silver. Last year's return was upwards of 14 tons of pure silver, obtained at a profit of 44,000*l.*, while the profits of the last four months may be taken as at the rate of over 60,000*l.* per annum. The mine may or may not continue to make such profits as are given in this last figure, but it is very rich, and there appears little doubt that it will yield such profits as were realised last year (say 40,000*l.* per annum) for a long time to come. Two dividends of 10s. per share have been paid since Christmas last, and a third of like amount will be declared in a few days, and there is at the present time a balance of something like 30,000*l.* of undivided profits in hand. Here, then, we have shares in a mine making a profit at the rate of over 40 per cent. per annum on its capital (the last four months show 60 per cent.), yielding 30s. per share in dividends in six months, leaving an undivided profit of 30,000*l.*, selling for barely three years' purchase. I venture to think that were there a little less apathy among the executive of this company, and a little more enterprise among its shareholders and the investing public, the shares would command more than double their present price, which, judging by the quotations of most dividend-paying mining shares, is a fair calculation of what they are worth.

One part of its property the Tolima lost in less favoured times than the present—I mean the Organos Mines, which is being energetically worked by an independent company, but which appears likely to equal its parent—Tolima—in success. Organos Mine is reported to be making a handsome profit, which will shortly, it is expected, be much increased. The shares have already risen considerably, and confidence is expressed that they are going very much higher. I shall be pleased to see this, as few can deserve success more than the shareholders in this promising little company. The North Tolima has just been successfully floated, the bulk of the shares having been taken by the shareholders in the Tolima Company. The North Tolima adjoins the Tolima, the same lodes pass through it, and the indications of a good mine are all that can be desired, one lode producing 2½ tons of ore (worth about 300 ozs. of silver per ton) to the fathom.—*City, May 8.*

T. T. T.

SHARE-DEALING—CIRCULAR MINING.

[ADVERTISEMENT.]

SIR,—On April 8 a circular, signed a "Shareholder," was freely distributed, which went on to say, "Look after your interests, I am deluged with circulars and price-lists from unknown people, and I am going to the expense of tracing the various relationships of these individuals, and feel assured that the accumulative evidence will be such as will put an end to this system." As no one than himself appeared more capable of accomplishing this, I am sure he will be disappointed to learn that the nuisance still continues, new and revised names appearing in the place of the old, but with the same address. One circular that recently has been sent out would be considered highly ludicrous and amusing, were not the audacity of playing with truth prove likely to mislead the runaway, or as a daily Financial and Mining remarks, "The old adage which describes a man who has been 'once bit' as being 'twice shy,' does not appear to apply to a certain class of English investors. On the contrary, with many of them, the more they are swindled the more they seem to be impressed by the cleverness of the swindler, and the more willing they appear to be to 'try their luck' with him once again. We have had evidences of this peculiarity on the part of some investors very recently. They are like the victims of the 'three card monte game,' like the poor fools who go on playing against blacklegs until they have nothing left to play with; and like them, if, being 'once bit,' they again put their heads into the tiger's mouth, they have only themselves to blame." Possibly a "Shareholder" may have seen the circular; if not, it alludes to the Home Mines Trust (Limited). It states that 10 per cent. will be distributed on the 12th inst., and 10 per cent. added to a reserve fund. It gives a table of profits on mines as equal to 53 per cent. per month, or about 640*l.* per cent. per annum, and further that 200 to 1000 per cent. is no unusual thing as profit in mining securities (if such were true, to what is to be attributed the failures within the last few months of those advertisers and others engaged in mining pursuits, not excepting the great smashes at the close of the past year). The circular "friendly" adviser goes on to say that the "Trust" shares advanced previously to 32s. 6d., which are now offered by him at the low price of 20s. each, with dividend, and tries to explain away the reason through "the foolish prejudice of many against the word 'mines,'" and that the directors state in their report (which it is presumed he has seen, being behind the scenes) that it is their intention "not" to invest the reserve in "mining" shares (that pay about 640*l.* per cent. per annum), but in debenture stocks, that will be non-speculative, interest-bearing investments. There are other so-called and bepraised advantages in buying these "Trust" shares set forth that are so absurd and transparently untrue that comment is needless. With all these extraordinary benefits one feels inclined to ask, Why do they want to sell such valuable shares when paying such large dividends? and it would be amusing to hear the reason assigned. Surely, need of money cannot be the case; if so, why not go and sell them on the Stock Exchange, where bargains or good stock find ready and eager buyers? If not this, why not borrow money on them, which, with their good repute, would be very easy? He must, indeed, be very incredulous who did not consider that the directors and others connected with the "Trust" are the most philanthropic and benevolent of their class after reading that part alluding to them; and it would further tend to show their disinterestedness if they would not hesitate to state, and it is to be regretted that the issuer of the circular did not deem it prudent to enlighten his friends as to what are the various mines they hold as securities; where situated, whether "promoters'" shares or otherwise; the number in each mine; at what price they were bought and when; what is the market value now of each (if any); would there be any difficulty in realising the total number of any one or all, if a necessity should arise; also, what dividend, or dividends, and when, have been paid on the securities; and, lastly, are the shares, held as security, transferred unto the directors names, and are they connected, directly or indirectly, with an undertaking of a similar character in 5*l.* shares largely circularised? Further, the directors could not object in all fairness to publish a balance-sheet—not a statement of accounts—in the *Mining Journal* (although these circulars are generally sent, as far as possible, to persons who do not see such papers), clearly setting forth all that is usual and explicit in properly conducted companies, and then what appears as a "snare and a delusion" in these sort of circulars would be effectually removed. Until this is done it will be difficult to efface suspicion and distrust. Who could suppose that a salmon is like an eel?

NORTHWICK OXFORD.

May 7.

ALTERNUN MINING DISTRICT.

SIR,—Mining and streaming operations undoubtedly began and continued for a long duration in this reputable locality, it being quite obvious to the observer that large productions of tin have been raised from the superficial parts of the stannic lodes, and stream works. The excavations and old dilapidated works in various places throughout the neighbourhood prove a demonstratory evidence of its antiquity.

A good deal of pleasure was afforded a few days ago in making a visit to the intervening mines between the Caradon district and the mines in the vicinity of Alternun. The first mine visited in taking the pleasurable trip was the Caradon and Phœnix Consols, which, having been abandoned for several years, assumed a desolate and deserted spot of land. The aspect, however, according to reports, ought to become vitalised, and resuscitated, and no longer remain in a state of abeyance, it being the universal opinion of those who are capable of judging that the mine when sunk to deeper levels and the different lodes which traverse the sett are properly developed will yield minerals in large quantities. There is a sufficient supply of water running through this property for all mining purposes.

Trebartha Lermarne Tin Mine was the next place of interest to be visited. The mine, which has not been in operation long, presents a new appearance, but a few parcels of tin have been sold. A brief portion of our time was spent in viewing the appliances, and open cutting from which the tinstuff is produced. The mine being worked by water-power the cost accruing in the erection of engine-houses is therefore saved. Leaving here we began to wend our way to Berlyn Tin Mine. This concern has recently been restarted, and the operations at present being principally of a preparatory nature. There are, however, 12 heads of stamps at work, and a small quantity of tin has been returned. This enterprise is also worked by water-power.

Notwithstanding the inclement weather, we started from this mine to view the mines in closer proximity to the village. Wheal Trewint Tin Mine was the first that occupied attention. This property presents good characteristics of success, as far as the lodes can be seen where wrought on. The sett is an extensive one, and five lodes are known to run direct through it, three of which have been tested for a few fathoms in depth with satisfactory results—results which should prove a stimulus to the promoters in forming a company with capital sufficient for a vigorous prosecution of the enterprise, there being indications of subterraneous riches, and is worthy of development. Water-power is available for all necessary purposes in working the mine, it being an eminent factor in mining operations. On arriving at Vincent Tin Mine a short time was devoted to the surveyal of the machinery, geological situation, &c., of the mine. It is doubtless surprising to strangers to perceive that nothing, comparatively speaking, has been done, although the mine has worked twice, to unfold its metalliferous treasures. The lower shaft is 30 fms. from surface, and Horseburrow shaft is sunk 15 fms. This depth can scarcely be considered a fair trial in working on a tin lode.

Many similar speculations have been ushered before the public, but as these undertakings do not commence to pay dividends when sunk a few feet below the "furze roots," or from surface, they have been abandoned, the capital having been expended and squandered away previous to the shafts attaining the depth of 50 fms.

Referring to the tin in the district it may be mentioned as being a rich quality, and of a variety of granular and crystalline forms; it is also found disseminated in the granite stratum, accompanied by chlorite, quartz, iron pyrites, copper pyrites, and tungstate of iron, commonly called wolfram. Some rare specimens of crystals of a quadrangular and prismoid form, terminated by a four-sided pyramid, have been raised. The extension of the Liskeard and Caradon Railway and mining pursuits seems to be the principal theme of conversation with the inhabitants, appearing invigorated with the apparent prospect of plenty of work for the miners and labourers, thinking that when the railway is extended capitalists will be induced to speculate in streaming and mining, the neighbourhood being situated several miles from any railway station.

Cheesewring, May 8. S. J. VINCENT.

CORNISH MINING—OLD SHEPHERDS DISTRICT.

SIR,—My advocacy of this district has been founded on the analogous conditions it compares with the mineral producing districts throughout the country. The most noted lode-veins produced their mineral in proximity to cross-courses and elvan dykes, to which is to be attributed the immense accumulations of mineral in the dividend-paying mines of the county, most of which commenced ore producing at a few fathoms from surface, proving more and more productive and extending in length as depth was attained. A section of Old Shepherds made by late workers shows the lodes to be rich within a few fathoms of surface, their shoots of mineral converging towards the bottom, or 120 fathom level, a further depth of 20 fathoms bringing them, as in the most productive mines throughout the county, into one main deposit, which is important, and points to a grand future. Underlying Old Shepherds' lodes is a large elvan. I have traced it for miles, it is the same that produced the great wealth in West Chiverton, and is, moreover, in the same killas formation. From these facts, and the similarity of the main conditions of the lodes to the lodes of the most abundantly productive mines of Cornwall, it may be relied on that little deeper development will ensure a mine of very great value in Old Shepherds, and I hail the time of reaching the bottom with very great interest. Its future progress will be carefully watched by me.—*May 8.* CHAS. BAWDEN.

STEEL-MAKING PLANT FOR SPAIN.—The Sociedad de Altos Hornos de Hierro y Acero de Bilbao have just ordered from Tannet-Walker and Co., of Leeds, a very large pair of compound engines for rolling steel rails, bars, or angles, and girders of H section. The weight of these engines is 400 tons, the strongest ever made. Coal is dear in Bilbao, and therefore, the greatest economy has to be used, and it has been found that the compound system in rolling, as in other work, requires a less number of boilers than the non-compound. Tannett-Walker and Co. are about to deliver the first instalment of the Bessemer machinery previously ordered for the same company in Bilbao. The centre crane weighs about 90 tons, and is made on Tannet-Walker and Co.'s balance ram system. The whole plant will be the most substantial ever erected, and the valuable iron ores of Bilbao will soon be largely used on the spot instead of being exported for manufacture elsewhere.

WATSON BROTHERS MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c
1, ST MICHAEL'S ALLEY CORNHILL, LONDON

There is not very much in the usual mining reports this week, though there are indications of things to come. At West Crebor there is a fine lode both in the shaft below the 80 and in the 80 driving west; in the former it is 3 to 4 ft. wide, yielding capel, mundic, and a little good quality copper ore. In the 80 west it is 4 ft. wide, a strong, masterly lode, with good stones of copper ore. We hope it will not be long before the patience of the shareholders will be rewarded by a course of ore. If indications are worth anything it ought not to be far off. At East Blue Hills the shaft is now down 6 fathoms below the adit; lode worth 8*l.* to 10*l.* per fathom. In the adit end east the lode is improving, and of a most promising appearance. At New Caradon the agent hopes to see the bottom of the shaft this week. The lode driving on in the 20 east is yielding saving work for copper. Prince of Wales continues to look well in the 102 east and 90 west. These points we hope will soon open good stoping ground. At New Langford a fresh stope is being opened in back of the 20 fm. level, near the engine-shaft, in which the lode the agent states will produce 5 cwts. of blende and saving work for silver-lead per fathom. West Frances is doing well, and if the debt is paid off there may be a good rise in the shares. The mine is working to a profit.

There will be a profit on the four months' working at Crebor, but at present we cannot say what it will be. We fear not enough for a dividend.

We understand that in a pitch in the back of the 45 west, at Prince of Wales, which some tributers are working, there is a good tin lode 9 ft. wide, and in ground whole to surface.

If anyone could have foreseen the enormous fall that has taken place in metals in the last year or two, greater caution might have been observed in speculating. But being in it, all we can hope is that both copper, tin, and lead may rise again, in which case shares in all *bona fide* properties will advance also. Lead ore has fallen at least 5*l.* per ton, tin 30*l.* per ton; copper ore at least 2*l.* per ton; and the effect of this on mines which had good prospects of paying well at one time may be easily seen.

The constant breakages of the machinery and flooding of the mine at Polrose, and always just as it seemed to be on the eve of cutting into the lode, which at shallow levels yielded such great returns (232 tons of tin that sold for 11,584*l.*), had the effect of late of inducing large holders to relinquish their shares, and it was useless trying to carry on the mine in a small number of shares, and with still heavier calls. We have for years held and carried on over 900 shares, and they have cost a large sum of money. A finer district for tin cannot be found anywhere, surrounded as the sett is by the oldest and richest mines in the county; but the disturbed ground, after the 232 tons of tin referred to had been taken away, and which seemed to continue to a great depth, proved difficult to overcome, especially with the constant breakage in the machinery. This, consisting of engines and stamps, cost a very large sum of money; what it will realise now it is impossible to say.

THE MISSISSIPPI RIVER DURING THE GREAT RIVER AGE—No. II.

BY J. W. SPENCER, M.A., F.G.S.

Professor of Geology, Missouri State University, late Vice-President of King's College, Windsor, Nova Scotia.

SLOPE OF THE LOWER MISSISSIPPI RIVER.—The direct distance from the mouth of the Ohio river to the Gulf of Mexico is about 550 miles, although by the windings of the river it is 1097 miles. The high-water level at the mouth of the Ohio is 322 feet above the sea, thus making the slope in a direct course along the valley about 0·59 of a foot per mile. The elevations of the localities where the borings were made are—at New Madrid, 302 ft.; at Plum Point, 248 ft.; near Memphis, 212 ft.; at Helena, 187 ft.; at Choctaw Bar, opposite Arkansas City, 142 ft.; at Greenville, 129 ft.; and at Lake Providence, 109 ft. above the gulf. The bottom of the alluvium-filled channel at New Madrid is found to be 102 ft. above the gulf; at Plum Point, 56 ft.; at Memphis, 63 ft.; at Helena, 24 ft.; at Choctaw Bar, 17 ft.; at Greenville, 41 ft. above the sea (only one boring was made in this locality, which was evidently not the deepest portion of the channel); and at Lake Providence, 22 ft. below the level of the ocean. From these figures it is manifest that the deepest portions of the channels have not always been reached, but there is sufficient evidence to show that the mean slope between New Madrid and Lake Providence (in the neighbourhood of both of which places several borings have been made) of the preglacial channel is now less than that of the modern surface, being respectively about 0·45 and 0·70 of a foot per mile along a direct line.

Accepting the deposits in the New Orleans well to be of post-pliocene age this would make the declivity of the ancient channel not less than about 600 ft. in a direct course of 250 miles, or about 2·4 feet per mile; but this slope was more or less diminished by the windings of the ancient channel, of which little more is known than that it existed. That the country has undergone great oscillations is unquestionable, but to what extent it is impossible to say. On examination of the channel between New Madrid and Lake Providence one can observe the very slight declivity frequently revealed by the borings, thus indicating a relatively smaller amount of depression towards the northern than towards the southern reaches of the valley of the Lower Mississippi river during the continental oscillations of the quarternary epochs, thus accounting in part for the greater slope of the lower portion of the ancient channel, or what seems probable (as will be seen in the study of the lake region) that during the subsidence of pleistocene days moderate transverse bulges were produced in the old continent, thus aiding in the construction of the basins of the great lakes, themselves mostly pre-existing valleys of erosion.

EXCAVATION OF THE LOWER MISSISSIPPI VALLEY.—It appears from the borings along the river above Vicksburg that the preglacial channel was neither excavated nor occupied by the great volume of water such as would be necessary to fill the valley, now underlaid by alluvial deposits from 40 to 80 miles or more in width, but rather by a river which relatively was not much wider than the valley above the junction of the Ohio river, about 5 miles in width, removing the detritus carried into it by rains, rills, and rivulets, acting on the soft and easily eroded eocene and cretaceous deposits during the middle and later tertiary days. As direct evidence the borings show that through the now buried valley there was a deeper sinuous channel, which at New Madrid was 110 ft. deeper than the adjacent and now buried shores. At Plum Point it was nearly as deep. The high continental elevation of the period of excavation would favour the deepening of the channel even in the soft deposits rather than the spreading of the waters over an abnormally wide surface, although the adjacent region on both sides would have been worn down more or less rapidly by the atmospheric agencies, acting especially on such incoherent strata as occur beneath the pleistocene deposits of the region, causes which seem to be sufficient for the explanation of the buried valley underlying the present alluvial deposits. There seems to be no more reason for supposing the alluvial region, from 40 to 80 miles wide, was made by a river in preglacial or even in glacial times than that the present basin of Lake Ontario was eroded by a river 40 miles wide, although it was by a river and concomitant agents from 2 to 5 miles in width, acting on strata nearly as yielding on its northern side as those along the sides of the Lower Mississippi Valley of pliocene days. This subaerial erosion would not prevent the greater or less development of bluffs in tertiary deposits as the river was meandering more or less along its basin.

The meteorological conditions do not favour a volume of water for the Lower Mississippi relatively so much greater than for the portion of the river above the junction of the Ohio. At the present time the river below the junction of the Ohio river and including the waters from it amount to about two and a half times the volume of the water above their union. The increase during the times of greater precipitation and the development of the now dessicated western miocene and pliocene lakes would have alike affected the upper section of the river through the discharge of the Missouri river, and the lower section through that of the Arkansas and other rivers, leaving the ratio of the erosive forces of the two divisions of the great river essentially as at present, though acting on very different kinds of strata. From all these considerations it does not appear that until after the pleistocene submergence the preglacial valley of the lower portion of the Mississippi was relatively much greater than the very much more ancient portion above the junction of the Ohio, which is about 5 miles in width between the bluffs, with the modern river less than 1 mile in width.

The mean rainfall of the whole Mississippi basin is about 30 in. per annum. If this were increased by 50 per cent. over the whole area the precipitation of moisture would not exceed the rainfall of many portions of the basin, while that of the Missouri basin is only 20 in. Such or even greater increase during the miocene and pliocene epochs is more then demonstrated when we study the large development of the lacustrine deposits of the Great Plains and regions farther westward. With the consequently increased discharge and the high continent, especially of the pliocene days renewed, the former conditions would be obtained, causing the alluvial and pleistocene deposits to be scoured out and the erosion of older tertiary formations to be recommenced.

A great increase of velocity would not be required for the re-excavation of the old channel, as the transporting power of running water increases with the sixth power of the velocity, while the erosion is fortunately only as the square. An angular stone of 3 ozs. can be moved by a current of 3 feet per second, while a stone of 150 lbs.—the size of the largest boulder in the orange sand—requires a velocity of less than 6 miles per hour to produce motion. In the borings at New Madrid the largest pebble obtained weighed only about 24 ozs. Thus we are able to find agents sufficiently great for eroding the old channel without having to resort to those of phenomenal extent, such as from a melting ice-sheet.

TRIBUTARIES OF THE LOWER MISSISSIPPI.—As we have already passed beyond the intended limit of space it will not be possible to more than indicate a few of the leading features of some of the more important tributaries without properly entering into the citations of even the small number of authorities. As the water shed of the Lower Mississippi Valley is usually within 100 miles of the eastern side of the river there are no large tributaries belonging to tertiary times entering from the east. The Yazoo river has a wandering length of 600 miles, rising in Horn Lake, south of Memphis, but it is only a modern river flowing through the present broad alluvial bottoms of the Mississippi valley. From the western side of the Mississippi there are several great rivers, portions of whose channels date from the close of the carboniferous age all the way down to the pleistocene epoch. All of these rivers flow more or less through broad bottoms, and often in deep canyons, produced by the drainage of the tertiary lakes. The Red river rises in a sterile plain (Llano Estacado), at a height of 2450 feet above the sea descends 380 miles to 641 feet above the sea, and then flows about 800 miles farther, and empties into the Mississippi at an elevation of 54 feet above the gulf. At its source it flows through a canyon from 500 to 800 ft. deep. Much of the bluff-bound valley through which the river meanders is from 5 to 10 miles wide, with bottoms covered by alluvium. Often the plains a few miles from the river rise as much as 400 ft. above it.

The Arkansas river has a length of 1500 miles, with its source about 10,000 ft. above the sea, whence it descends in torrents for 225 miles to an altitude of 3672 ft. at Fort Bent, where its valley has already reached a width of from ½ to 1½ mile. In the next 300 miles it descends 2000 feet more. Thence it continues to lose its great slope, and gain a broader valley. Even after it descends to 600 or 700 miles from its mouth, as at Fort Gibson, it is bounded by bluffs 500 ft. high. Its tributaries are large, and of similar character, with great alluvial valleys. These valleys cross tertiary, cretaceous, palæozoic, and again eocene deposits. The river as a whole did not come into existence until the tertiary days, but it rapidly excavated its great canyon in more or less easily eroded strata while draining waters from the later tertiary lakes. One portion of this river as well as the upper part of the White river discharged directly into the embayment of the Gulf of Mexico during the mesozoic and early tertiary times. The St. Francis river, rising in the Ozark Mountains, flows through a valley partly excavated out of the archæn strata, then passes over rocks of cambrian and early silurian age, and finally, after a long course over the alluvial bottom of the Mississippi Valley, enters that river. In the first 105 miles it descends 820 feet. This river is interesting, as a portion of it has its origin dating back to the earlier silurian days if not before, when a small river from an island of archæn rock discharged into the earlier palæozoic sea, while yet only a few of the tributary streams of the head waters of the Mississippi were in existence. From the middle of the palæozoic times to the close of the tertiary the river discharged into the northern embayment of the Gulf of Mexico.

THE MISSISSIPPI SINCE THE PLIOCENE EPOCH.—As we have already seen the great valley was excavated before the "ice age." The changes which it has undergone synchronously with the rest of the continent during and since that epoch scarcely come within the range of this paper. On making a brief review of the more recent events we find that if the Lower Mississippi Valley were not already an estuary during the period of southern drift (orange sand) it certainly become such during the Port Hudson epoch, when both marine and fluviatile beds were produced. The estuary in some places was then nearly 100 miles wide, and was greater than the lower reaches of the Amazon river of to-day. With various changes followed the epochs of the erosion of the recently deposited strata, to be succeeded by one of submergence, which permitted of the deposition of the loess adjacent to the Mississippi river on the lower ground, and of the unfossiliferous yellow loam—spreading out as an unstratified horizontal sheet from 10 to 20 ft. thick, overlying the loess at their junction or at greater altitudes the orange sand—now occupying nearly all of the higher ground. The yellow loam reaches not only to the elevation of the orange sand (700 ft.), but to 1000 or 1200 ft. above the gulf, and indicates a period of obliteration of the late Mississippi estuary by the broader expanse of water.

This period of great submergence was followed by an epoch elevation accompanied by one of erosion, excavating broad valleys in pre-existing post pliocene deposits, which produced the "hummocks or second bottoms" of the Mississippi Valley. The excavation was confined to the old river valleys, and was of moderate extent, although the body of water was necessarily great. It was at this time that the old quarternary formations were finally eroded, leaving the channel which has subsequently been partly filled by modern alluvium deposited in consequence either of the diminution of the supply of water or of the lessening of the slope of the river or of both causes.

In concluding this portion of our study it may be of interest to correlate the changes of the Lower Mississippi with those which must have been simultaneously in progress in the region of the Lower Great Lakes. In the latter named region the boulder clay (often wanting) passes into the Erie stratified clay (the probable equivalent of the Port Hudson group), whose surface is eroded and overlaid by the brown or Saugean clays of Canada. These latter deposits appear to have been laid down at the same time that the southern yellow loam was produced. In Ontario the brown clays reach an elevation of 1600 or 1700 ft. above the sea. Again the brown clays were eroded before the deposits which form so many old shore lines and terraces about the lakes; at least those at lower elevations. This last period of erosion was probably synchronous with those floods of the Mississippi which produced the later pleistocene channels and second bottoms, and was followed by the epoch of terraces. The reference by glacialists of the high clays in the north to glacial lakes cannot be extended to the southern yellow loam, which reaches to nearly as great an altitude, but the deposits in both regions appear to have resulted from similar conditions during an era of subsidence.

INVESTMENT NOTES.

The prospects of the Mining Market are becoming brighter, and threre is an enquiry on all sides for shares which are marketable, and which have a probability of yielding a profit to the investor. Money there is in abundance awaiting employment, but there is rather a scarcity of promising speculations or investments. When the channel is so narrow great caution must be observed, and we strongly urge our readers to accept guidance only from experienced advisers. The metal markets appear to be free from violent fluctuations, and the steadier tone which now exists leads qualified judges to believe that the cycle of depression has passed, and that the future will bring with it a more extended business and higher prices. Among the established dividend-paying mines West Kitty shares have chiefly been dealt in during the week, and the prices show an advance of about 10s. per share. Any rise in the value of tin will be an additional profit to this mine.

Polberro shares have been enquired for, and are scarce even at the high premium now prevailing. Of the St. Agnes mines, most of which are full of promise, none is more deserving of attention, or more likely to bring profit to an immediate purchaser than South Kitty. It immediately adjoins mines which have given great riches in the past, and West Kitty, paying good dividends at present. The character of the ground is the same as in the adjoining mine, which, as Polbreen, returned an immense quantity of tin at a shallow depth. The lode in the shaft is now improving at each fathom sunk, and there is no reason to doubt that a valuable deposit of tin will soon be met with. The company is conducted on the same approved system adopted by other companies in the same district—the "No Credit" system. The shares are well held and are likely soon to command higher prices than present quotations. As a *bona fide* speculation there are few better than South Kitty. There has been more demand for Prince of Wales shares, and an early improvement in the mine is confidently anticipated. Purchasers should not lose the chance of buying at present low prices.

East Wheal Rose, Mounts Bay, and Tresaven shares have been largely dealt in Home Mines Trust have been bought on the announcement of the dividend of 10 per cent., while the directors have wisely resolved to place 10 per cent., which has been earned in addition, to the reserve fund. The profit made by this company is a proof of the profitable nature of investments in British mines. We have excellent accounts from Schwab's Gully Diamond Mine. Already nearly 60 per cent. of the capital has been returned in dividends, which are regularly paid every quarter. At present price the shares yield 25 per cent.

Old Broad-street, May 9. ALFRED E. COOKE.

ROYAL CORNWALL POLYTECHNIC SOCIETY.—The Prize List for 1884, which has just been issued, and may be had of the secretary, is a particularly interesting one. In the mechanical section (No. 1) miners have an ample field for securing the recognition of their skill. In connection with rock-drills, steam-engines and boilers, and machinery connected therewith, &c. Medals are offered by the Society for:—Rock-drills applicable to the county, to be tested in competition (provided not less than three entries be made) as to power and economy, and upon such conditions as the judges shall determine. The best machine (having regard to efficiency and economy) for compressing air for working rock-drills. The best safety appliance for securing skips or cages adapted for use in Cornish mines. The best method of construction of Cornish boilers, having in view the lessening of the effect of the corrosive action of the impure water in Cornish mines. The best non-conducting material (harmless in effect on metals) for covering steam boilers, cylinders, and steam pipes, to be tested in competition as to its waterproof qualities, efficiency in resisting the radiation of heat, facility in use, durability, and economy of cost, and for improved stamping machinery. Steam will be supplied free of cost, and every facility will be given by the Society for conducting these trials, and for exhibiting all machinery, which will be placed under cover.

In this section there are the special premiums for essays, which are well worth competing for. Three premiums in books are offered by the Editor of the *Mining Journal*, value 3*l.* 3s. for the best, 2*l.* 2s. for the second best, and 1*l.* 1s. for the third best papers, by practical miners or others engaged about mines, upon a method, mechanical or chemical, of making marketable, with commercial advantage, ores or minerals raised from mines in Cornwall an Devon, and hitherto regarded as worthless. The books shall be chosen by the writer of the paper. In the case of mechanical methods not in actual use, it must be demonstrated that the apparatus is simple, durable, and not likely to get out of order. In case of chemical methods not in actual use, samples of the products in the various stages must accompany the paper, in proof of the practicability of the process.

A premium of 2*l.* is offered by the Society, and 3*l.* by Colonel Tremayne, for the most exact account of the phenomena of mineral veins in any mine or district, their dip, direction, variations in productiveness, slides, heaves, &c.

A premium is offered by the Society for the best essay treating on the reasons for the diminished duty of Cornish pumping-engines, and giving practical suggestions for its improvement. All papers in this section must be sent to the Secretary at least three weeks before the Exhibition commences.

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	1883.		1884.
Imports from Jan. 1 to April 30, bottles about	16,014	... about	37,157
Exports " " " "	17,203	... "	14,744
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Exports " ..... " "	4,656	... "	2,038
Price per bottle, about.....	£5 10	... "	£5 10

Stock in London to April 30, 1884, roughly calculated, is about 96,000 bottles.—*London, May 8.* J. BENNETT BROTHERS.

GOLD AND SILVER.—Messrs. PIXLEY and ABELL (May 8) write: The demand for gold has hardly kept pace with the supply in consequence of a rise in the Dutch Exchange, and the Bank of England has purchased 316,000*l.* The arrivals comprise 823,460*l.* from New York, and 5400*l.* from Australia. The Bank has sold 50,000*l.* for South America. The P. and O. steamer takes 47,500*l.* to Bombay, and the Nile 12,000*l.* to the West Indies. The total amount of gold shipped from New York to Europe, from the commencement in February, to the present time is $35,567,940. Silver, which we quoted 50 13/16d. last week, has given way slightly, because of largish arrivals on an extremely dull market. We find, however, to-day a better enquiry, and we give 50 ¼d. buyers, as this day's quotation. The Handel has brought 46,900*l.* from Buenos Ayres, and the City of Chester about 24,000*l.* from New York. The West India steamer takes 3000*l.*, the Decan 153,000*l.* to Bombay, and the Assam 10,000*l.* to Calcutta. Mexican dollars have all the week maintained their price of 49 ⅞d. To-day, however, there are buyers at 50d., and this price we must give as the nearest quotation. The Assam takes 127,740 to China and the Straits. The sold arrival is 6000*l.* from New York. The quotations for bullion were:—Bar gold, fine, 77s. 9d. per oz. standard; bar gold, containing 20 dwts. silver, 77s. 10½d. per oz. standard; Spanish doubloons, 73s. 9½d. to 73s. 10d. per oz.; South American doubloons, 73s. 8½d. per oz.; United States gold coin, 76s. 3½d. per oz. Bar silver, fine, 50¾d. per oz. standard; bar silver containing 5 grs. gold, 51 ⅛d. per oz. standard; cake silver, 54¾d. per oz.; Mexican dollars, 50d. per oz. Quicksilver, 5*l.* 10s. Discount 3 per cent.

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PUBLISHER AND PROPRIETOR, CHARLES D. PHILLIPS, NEWPORT MON.

HAYTOR VALE MINES,

Ilsington, Devon.

Two and a half miles from Bovey Tracey, five from Ashburton, and six and a half from Newton Abbot, at each of which towns there is a Great Western Railway station.

HIGHLY IMPORTANT SALE OF MINING MACHINERY AND PLANT.

RENDELL AND SYMONS have been instructed by the Mortgagees TO SELL, BY AUCTION, at the above Mines, on THURSDAY, May 29th, 1884, commencing at Eleven A.M. punctually, the WHOLE of the

MINING PLANT, MACHINERY, AND OTHER EFFECTS,

Late the property of the Haytor Mining Company (now in Liquidation.)

Comprising, amongst other articles, a nearly new Yorkshire AIR COMPRESSING ENGINE, of 40 nominal horse power, by Fowler and Co., in splendid condition; new pair of air compressing cylinders; five rock-boring machines with all appliances, air hoses, &c., by Dunn and Winn; seven traction engine wagons, to carry from 8 to 10 tons, in good order; 14 mineral trolleys 2 feet 5 inches gauge; 30 tons of tram rails; from 2 to 3 tons of cast steel bars; two 6-inch and 4-inch force pumps with hose to match; about 600 feet of 6-inch cast-iron air tubing; 12-horse power winding-engine, with two cylinders, by Fowler and Co.; a 6-inch single Cameron pump; capital weighbridge, with 6 feet plate, to weigh 10 tons, by Bartlett and Son; 250 tons of selected magnetic and other iron ore; 250 yards of cracked road metal; new 6-feet cog-wheel for the winding-engine; two complete sets of blacksmiths' tools; three 6-inch driving belts, about 60 feet long; an immense quantity of the smaller mining and engine tools, including about 100 steel bars and jumpers, cast steel sledges and hammers, pulley blocks, chains, crowbars, two ended picks; 12 traction engine boiler tubes, feed nuts, blister steel; about 12 boring steels and bits, bolts, nuts, &c.; crab winch; 12 wheelbarrows; 35 zinc 4-inch air pipes; bar and scrap iron; cast steel wheels; patent weighing machine; castor and olive oil; about 130 lbs of dynamite; sleepers and firewood, a quantity of larch, baulk, deals, boards, and planks; portable office covered with zinc, and fitted with cupboard and stove; the erection of smiths' shops and ten other houses, consisting of deals of various dimensions, flooring and other boards, roofing felt, &c.; 19 timber stands for carrying a wire tramway, each containing a number of deals from 9 × 3 downwards, and many other articles too numerous to mention, but which with the above will be fully described in catalogues to be obtained of Captain GROSE, at the mine, of the Auctioneers, at Newton Abbot or Totnes, Devon, or of Messrs. C. C. ELLIS, MUNDAY, and Co., of 19, St. Swithin's-lane, London, E.C., solicitors to the above mortgagees on and after May 20th.

The whole will be on view the day previous to the sale.

The Auctioneers can highly recommend the whole of the above to the public; a great deal of it having been purchased within the last few years from the manufacturers, and has since been well taken care of. Punctual attendance is requested.

Conveyances will leave the Newton Abbot station on the arrival of the up and down trains at about 9·40 A.M. for the place of sale. Return fares 2s. 6d. each.

N.B.—Should any of the above be disposed of previous to the auction notice thereof will be given by advertisement.

Dated April 16, 1884.

TO MINING COMPANIES, MANGANESE MERCHANTS, &c.

DEVON, NEAR EXETER.

TO BE SOLD, BY PUBLIC AUCTION, on FRIDAY, the 13th June, 1884, at the Rougemont Hotel, Exeter, at Two for Three o'clock P.M., in One or more Lots, the VALUABLE ESTATES called

MARSH BARTON AND LANGFORD,

Situate about three miles from Exeter and one mile from Newton St. Cyres Railway Station. Beds of manganese of great value are believed to exist on the property. Shafts have been sunk and pits dug, and the manganese raised can be seen on the surface.

Large quantities of manganese have been raised on adjoining property, realising many thousands of pounds.

The property has been inspected by a practical miner, and a copy of his report is printed in the particulars, for which and for plans, conditions of sale, and all other information, apply to Messrs. HELMORE and SON, Auctioneers, Crediton, Devon; to H. HAMWORTH, Esq., Pine Villa, Blackheath-hill, Greenwich; to Mr. EDWARD ELLIS, Surveyor, Exeter; to R. G. ABRAHAM, Esq., Solicitor, Ashburton, Devon; or to Messrs. MEAD and FOWLER, Solicitors, 52, Chancery-lane, London.

Dated 25th April, 1884.

FOR SALE, A GREAT BARGAIN, the powerful AMERICAN LOCOMOTIVE, known as the "LOVETT EAMES," with TENDER and FITTINGS, estimated to weigh 60 tons, built by Messrs. Barnham, Parry Williams, and Co., of Philadelphia, fitted with Eames' Duplex Brake, and purchased for the purpose of illustrating the action of the brake on heavy trains at high speeds. Must be disposed of at once.

Apply, GEO. COHEN, SONS, and Co., Iron and Metal Merchants, 600, Commercial-road, E., London.

Telegraphic Address—"COBORN, London."

PIT SINKING, WINDING COAL, PUMPING, &c.

PORTABLE STEAM ENGINE FOR SALE, with two 9½ inch cylinders, and link motion reversing gear also gear to wind and pump.

A 9 H.P. VERTICAL STEAM ENGINE, with link motion reversing gear (winding drum if required).

A 6 ft. pan MORTAR MILL, VERTICAL ENGINE, and BOILER combined, on carriage and travelling wheels.

Apply to—

BARROWS AND STEWART, ENGINEERS, BANBURY.

IMPORTANT TO MINE OWNERS.

FOR SALE, a PLANT of ROCK-DRILLING MACHINERY, quite new, comprising—

ONE AIR-COMPRESSING ENGINE, with 12 inch cylinders, 3 and 3½ in. rock drills, stretcher bars, &c., &c. Our Machines have been driving levels in hard rock 3 to 4 fathoms per week forward. Contracts undertaken.

Address,—WARSOP AND HILL, NOTTINGHAM

FOR SALE, at BRENDON HILLS MINES:—ONE 28 inch cylinder PUMPING and WINDING ENGINE, stroke 9 feet, with fly wheel, winding gear attached, with one 12 ton boiler.

Also ONE 25 inch cylinder PUMPING and WINDING ENGINE, stroke 9 feet by 7, with fly wheel, winding gear attached, with one 10 ton boiler fitted with Galloway tubes.

Any further information may be obtained from Capt. HENRY SKEWIS, Brendon Hills Mines, Washford, Taunton.—Dated March 12, 1884.

FOR SALE, TWO £50 DEBENTURES of a GOING INDUSTRIAL COMPANY doing a good and increasing business. Price £45 per debenture, or an offer.

Address, letter only, "Dynamo," MINING JOURNAL Office, 26, Fleet-street, E.C.

COMPULSORY SALE BY ORDER OF TRUSTEES:—A 40-horse power AIR COMPRESSOR, by Fowler, of Leeds; and several ROCK DRILLS. An exceptional bargain for cash. All in good condition.

Apply to T. B. JORDAN, SON, and COMMANS, Engineers, 52, Grace-church-street, E.C.

FREEHOLD—Between two celebrated MINING GROUPS.—About 20½ acres of FREEHOLD LAND, with HOUSE and OUTBUILDINGS, TO BE SOLD.

Apply to Messrs. DEBENHAM, TEWSON, FARMER, and BRIDGEWATER, 80, Cheapside.

MINERALS FROM ARENDAL AND ENVIRONS:—Monazit, Keilpasit, Titanit, Yttrotitanit, Xenotin, Euxemit, Arthit, Rutil (Titanium), Molybdänglanz, &c.

Always to be had of Mr. THOS. BRONLUND, Arendal, Norway.

MINE "EL CALLAO." GUAYANA, VENEZUELA.

32,200 SHARES.

Gold in bars produced in the month of March, 1884, remitted to Messrs. Baring Brothers and Co., London—16,790·60 ozs.

DIVIDEND distributed for each Share, 28 francs.

(Signed) A. LICCIONI, President.

(Signed) VICTOR T. GRILLET, Treasurer.

THE CANADA PACIFIC IRON AND STEEL RAIL COMPANY.

The Subscriber is desirous of opening communication with some party in England for the purpose of organising the above company.

One thousand acres of red hematite ore not far from the line of the C. P. R.

Address, HUBERT C. JONES, Solicitor, Brockville, Ontario, Canada.

WESTMINSTER CONSOLS (LIMITED).

CHAIRMAN.

Lieut.-General W. WARDEN ANDERSON.

The January dividend has been paid. A dividend of 10 per cent. guaranteed for six months, payable July, 1884.

Messrs. DRUMMOND, TREMAYNE, and Co. have SPECIAL BUSINESS in the above.

33, Queen Anne's Gate, Westminster, S.W.

Bankers: London and County Banking Company (Limited), S.W.

POSTPONEMENT OF SALE TO 27TH MAY INSTANT.

IN LIQUIDATION.

THE CENTRAL FOXDALE SILVER-LEAD MINE,

ISLE OF MAN.

GEORGE TURNER AND SONS are instructed by the Liquidators TO SELL, BY AUCTION, on TUESDAY, the 27th May next, at half-past Two for Three o'clock in the afternoon, at the Law Association Rooms, Cook-street, Liverpool, subject to conditions, the

CENTRAL FOXDALE SILVER-LEAD MINE, Isle of Man, together with the BUILDINGS, MACHINERY, and MATERIALS, and the LEASE under which the mine is worked, as a going concern, in One Lot.

The PLANT comprises—52 inch cylinder CONDENSING ENGINE, with two boilers; 20 inch cylinder HORIZONTAL ENGINE, steam boiler; 14 inch cylinder HIGH PRESSURE ENGINE; 14 inch air compressor, with 14 inch cylinder engine for same, and large steam boiler; pulsometer pump; engine houses and boiler houses complete; 289 fathoms of pitwork, with the necessary plunger lifts, &c., &c.; stone breaker and crushing mill complete; two plunger jiggers; two round buddles; water wheel; six sieves worked by hand levers; lead house; coal stores; smiths' shop; office and changing house, &c., &c.

The above plant is of good description, and in thorough working order.

The mine is situate about six miles from Douglas, and comprises about 266 acres, held on lease for an unexpired term of 21 years from October, 1883, at a rental of £41 per annum, and a royalty of 1-12th, subject to a reduced royalty of 1-14th during a period of five years from the date of lease.

The mine will be open for inspection daily from Nine A.M. to Five P.M. from the 19th to the 23rd of May inclusive. The engines and dressing machinery will be kept going in order to enable parties to inspect the machinery and the underground workings, &c.

Orders for underground inspection may be obtained from the Liquidators—Mr. THOMAS GERARD and Mr. WILLIAM SMETHAM—at the office, 9 and 10, Cambridge Chambers, Lord-street, Liverpool, on giving one clear day's notice, together with the name and address in full of each underground inspector.

Plans of the mine can be inspected at the office as above, where all information may be obtained.

Detailed catalogues and conditions of sale may be had on the day of sale from the Liquidators, or the Auctioneers, 44, Church-street.

DRWS-Y-COED PASS, NANTLLE VALE.

THE CARNARVON COPPER MINING COMPANY (LIMITED).

IN LIQUIDATION.

MESSRS. WM. DEW AND SON are instructed to SELL BY PUBLIC AUCTION, without reserve, on the Works, situate three and a half miles from Nantlle, and two and a half miles from Rhyd-ddu Stations, on the London and North-Western and Narrow Gauge Railways, on WEDNESDAY, the 14th day of May, 1884, the whole of the

VALUABLE PLANT AND MACHINERY,

Comprising a 30 ft. diameter WATER-WHEEL, 4 ft. breast, with all connections; a 22 ft. diameter WATER-WHEEL, 4 ft. breast; a 30 in. CORNISH CRUSHER, with hoisting drum attached, 190 fathoms 4½ in., 26 fathoms 6 in., 20 fathoms 8½ in., 40 fathoms 7½ in., and 30 fathoms 9 in., pumps with bucket rods, &c., complete; two balance bobs, with pedestal brasses; two four-arm capstans, 260 fathoms 1½ in. capstan, with mild steel wire-rope, nearly new; a 5 ft. diameter winding-drum, with fork wheels, couplings, brake, 120 fathoms chain pulleys, and 200 fathoms of ¾-in. wire-rope, three large kibbles; an improved automaton jigger; two hand machine jiggers, cylindrical riddles, wheelbarrows, dressing tools, four tram wagons, scales and weights, a double-blast smith's bellows, anvil, vice, set of stocks and dies, smiths' tools, miners' tools, rails, wagon wheels, large lifting jack, sets of pulleys and blocks, crab winch, miners' dial, by "Wilton"; quadrant and telescope, case of mathematical instruments, &c.

The whole, in the first instance, will be offered in one lot, as a going concern, and if not so disposed of, then in separate lots.

Sale to commence at Twelve o'clock at Noon.

Catalogues may be had at any of the principal Hotels in the neighbourhood, and on application to the liquidator, EDWARD ASHMEAD, Esq., F.C.A., 2, Drapers' Gardens, London, E.C.; Messrs. STACPOOLE and SON, solicitors, Pinners' Hall, Old Broad-street, London, E.C.; Captain JOHN ROBERTS, mining agent, Llewelyn-terrace, Llanwrst; and the Auctioneers, Bangor.

WEST WHEAL TOLGUS, NEAR REDRUTH.

IMPORTANT SALE OF MINE MACHINERY, MATERIALS, AND PLANT.

MR. W. T. DAVEY, has been instructed to SELL BY AUCTION on TUESDAY, 20th May next, at Twelve for One o'clock precisely, at the above mine (about two miles from Redruth and Carn Brea Railway Stations), the whole of the very

VALUABLE MACHINERY AND MATERIALS

THEREON, VIZ.:—

ONE Good 70 inch Cylinder PUMPING ENGINE, stroke 10 feet by 9, with first piece of main rod.

FOUR Excellent BOILERS, 40 tons, with fittings complete.

ONE First-class 65 inch Cylinder PUMPING ENGINE, stroke 10 feet by 9, with first piece of main rod. (This engine will be found equal to new, £800 have recently been spent to put it in thorough good order.)

Four good 10 ton boilers, with steam pipes and fittings complete; one pair of 12 inch cylinder horizontal winding engine, with steam capstan and drawing gear attached (this is a very high class engine); one nearly new 10 ton boiler, fitted with Galloway tubes (this boiler, if required, can be worked with perfect safety 70 lbs. to the inch); one nearly new 22 inch cylinder winding engine, 6 feet stroke, equal beam, with a pair of 24 inch crusher rolls, sieves, and nearly new raft wheel complete; one 8 ton boiler with fittings; one nearly new portable engine (by Sykes, London), with two 9 inch cylinders; one powerful steam capstan and drawing gear; one second-hand portable engine; two donkey engines (each 7 inch cylinder); one air compressor (20 inch by 18); one 7 ton air receiver; three Barrow rock drills; two bars: one steam winch or ground lark engine; two pairs of Colom's automatic jigging machines, complete; angle and balance bobs; two 60 feet shears; shieves; blocks, &c.; 300 fathoms 3 inch steel wire rope; dry tube.

A superior lot of hammered and rolled strapping plates, a large quantity of shaft rolls, shieves, chain (various sizes), rod bolts, staples and glands, bucket prongs, railroad iron, drop screw, lifting jacks, pulley block and shieves, single and double power winches, smiths' tools, crane, vice, horses, &c., a quantity of new iron, new and old brass, main caps, grinding stone, carpenter's bench, buddles, and buddle gear work, five 7 inch pumps, large lifting crane, large weighing beam, scales and weights, ladders, four good wood cisterns, a considerable quantity of useful timber, a large quantity of wrought, cast, and scrap iron, kibbles, &c., two excellent engine counters, 13 improved steam pressure gauges, and a variety of other articles in general use on mines.

The whole of the foregoing will be sold in lots to suit purchasers.

MARK—SALE, TUESDAY, MAY 20TH, AT ONE O'CLOCK PRECISELY.

To view, apply to the Agent on the Mine; and for further particulars apply to Capt. JOHN GILBERT, the Manager; or the Auctioneer, 4, Station Hill, Redruth.—Dated, April 29th, 1884.

BUCKFASTLEIGH—SOUTH DEVON.

FREEHOLD PROPERTY FOR SALE.

MESSRS. BOURNE, SON, AND VOSPER, WILL SELL BY AUCTION, on THURSDAY, the 15th of May, 1884, at 4·30 P.M., at the King's Arms Hotel, Buckfastleigh, all that very desirable PROPERTY, called

BURCHETTS AND RETREAT,

Containing about 53 acres (more or less), consisting of about 21 acres of very prime oak coppice land, 15 acres of wood and plantations, 17 acres of meadow, pasture, and orchard, with labourers' cottage and entrance lodge thereon.

The above will be found a very desirable property; it is all within a ring fence, would make a valuable building site for a residence, is well wooded and supplied with water, known to abound in rich copper ore lodes, being bounded on one side by the celebrated Brookwood Mine (now called the South Devon United), and on the other by the East Devon Consols, both of which are considered to be rich in mineral; it adjoins the road leading to Buckfastleigh, and is about two miles from the railway station, a good trout stream runs by, and the property commands extensive and picturesque scenery and views.

For viewing apply to Mr. MAUNDER, Brook, Buckfastleigh, and for further particulars to the Auctioneers, at Totnes; or to Mr. MICHELMORE, Land Agent, Gate House, Totnes; or Messrs. MICHELMORE and HACKER, Solicitors, Newton Abbot.

IMPORTANT TO MINE PROPRIETORS AND OTHERS.

MYNYDD GORDDU MINE, NEAR ABERYSTWYTH, CARDIGANSHIRE.

MR. EDWARD HAMER has been favoured with instructions by Mr. JOHN EDEY, the Official Liquidator appointed by the High Court of Justice (Chancery Division), TO SELL BY PUBLIC AUCTION, on the premises at the said mine, situate within eight miles of the town of Aberystwyth, and five miles from Bow-street Station on the Cambrian Railways, on WEDNESDAY, the 21st day of May, 1884, the whole of the

VALUABLE AND MODERN PLANT,

MACHINERY, PUMPING AND OTHER WATER WHEELS,

Crushers, stonebreakers, patent self-acting jiggers, round riddles, cast-iron pumps, bridge tram rails, tram waggons, iron roads, chains and chain ladders, air-pumping machine, shaft bob, hauling machine, incline drum, crab winches, steel wire ropes, pumping rods, shaft tackle, wood launders, round buddles, and cast-iron shafts, cog wheels, pulleys, &c., wooden sheds with zinc roofs, mining tools, smith's tools, wire fencing, wood railings, and sundry other effects.

The sale to commence at 11 A.M. prompt.

Catalogues may be had at any of the principal hotels in the counties of Cardigan, Carmarthen, Merioneth, and Montgomery; on the Premises; of the Auctioneer at Aberystwyth; of the Official Liquidator, 10, St. Swithin's-lane London, E.C., and 20, Norfolk-street, Sheffield; of Messrs. ROGERS and CHAVE, Solicitors, 3, Great Winchester-street Buildings, London; and of Messrs. HUGHES and SONS, Solicitors, Aberystwyth.

TERMS—CASH.

NEW BROOKWOOD COPPER PROPERTY, BUCKFASTLEIGH, SOUTH DEVON.

Capital £6000, in 6000 shares of £1.

This property has been acquired by a Syndicate registered with Limited Liability.

The Committee will meet on Tuesday next, 13th May, to ALLOT the FIRST ISSUE of SHARES, nearly the whole of which have already been privately applied for.

Intending subscribers should send their applications to G. J. GRAY, Secretary, St. Clement's House, Clement's-lane, Lombard-street, E.C.

NOBEL'S DYNAMITE

Alfred Nobel

Manufactured and sold by

NOBEL'S EXPLOSIVES COMPANY, LIMITED

(FORMERLY THE BRITISH DYNAMITE COMPANY LIMITED),

Head Office: 149, West George Street, Glasgow.

EXPORT AGENTS: JAMES THORNE AND CO., 85, GRACECHURCH STREET, LONDON, E.C.

FACTORIES—ARDEER WORKS, STEVENSTON, AYRSHIRE.
WESTQUARTER WORKS, POLMONT STATION, STIRLINGSHIRE.
REDDING MOOR WORKS, POLMONT STATION, STIRLINGSHIRE.

TONITE, OR COTTON POWDER,

IS RECOMMENDED TO CONTRACTORS, MINERS, PIT SINKERS, QUARRYMEN, AND OTHERS, AS BEING THE SAFEST, CHEAPEST, AND STRONGEST OF ALL EXPLOSIVES

TONITE is the most efficient and economical blasting agent ever invented, and is largely in demand. It does not contain any Nitro-glycerine, and is, therefore, exempt from the dangers of exudation, or of freezing and its attendant process of thawing.

The Company manufacture

PATENT DETONATORS

of a quality much superior to the foreign article. Also supply Safety Fuse and Electric Firing Appliances of best description. The trade supplied on favourable terms.

ADDRESS—THE COTTON POWDER COMPANY (LIMITED)

23, QUEEN ANNE'S GATE, LONDON, S.W.

WORKS: FAVERSHAM, KENT.

Agents: DINEEN and Co., Leeds; DAVID BURNS, Haltwhistle; R. J. CUNNACK, Helston, Cornwall; J. and W. SMITH, Chapel-en-le-Frith; W. VEITCH, Jedburgh, N.B. W. HARRISON, Barrow-in-Furness; W. J. PARRY, Bangor; HUNTER and FOTHERINGHAM, Glasgow.

RHENISH DYNAMITE COMPANY.

DYNAMITE

OF THE GREATEST STRENGTH ALLOWED BY THE EXPLOSIVES ACT.

OFFICES.—

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LONDON AGENT,—E. KRAFTMEIER & CO., 5, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C

NOBEL'S DYNAMITE.

HAMBURGH GERMANY

MANUFACTURED AND SOLD BY THE

DYNAMIT-ACTIEN-GESELLSCHAFT

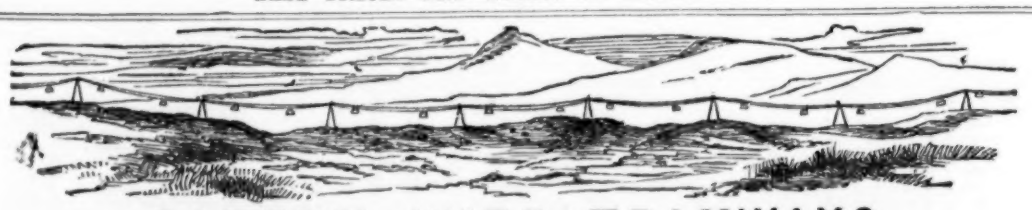
VORMALS ALFRED NOBEL & CO., HAMBURG.

(HAMBURG DYNAMITE COMPANY, LIMITED),

Formerly ALFRED NOBEL & CO.

LONDON OFFICE: 42, BASINGHALL STREET, E.C.

BEST PRICES AND TERMS ON APPLICATION.



PATENT WIRE TRAMWAYS

Of all descriptions on the Single and Double-Rope Systems; Self-Acting, and Driven by Steam, Water, or Horse Power.

Carrying from 50 to 1000 tons per day. Over 150 miles erected in all parts of the world. For Particulars and Estimates apply to

W. T. H. CARRINGTON, 9, and 11, Fenchurch Avenue, London,

Removed from 76, Cheapside, E.C.

ENGINEER AND MANAGER TO THE OWNERS OF THE PATENTS FOR WIRE ROPE TRANSPORT.

For Excellence and Practical Success of Engines.

Represented by Model exhibited by this Firm.

HARVEY AND CO.

(LIMITED)

ENGINEERS AND GENERAL MERCHANTS.

HAYLE, CORNWALL.

LONDON OFFICE.—186, GRESHAM HOUSE, E.C.

MANUFACTURERS OF

PUMPING and other LAND ENGINES and MARINE STEAM ENGINES of the largest and most approved kinds in use, SUGAR MACHINERY, MILLWORK, MINING MACHINERY, and MACHINERY IN GENERAL.

SHIPBUILDERS IN WOOD AND IRON.

MANUFACTURERS OF

HUSBAND'S PATENT PNEUMATIC STAMPS

SECOND-HAND MINING MACHINERY FOR SALE,

IN GOOD CONDITION, AT MODERATE PRICES—VIZ.

PUMPING ENGINES; WINDING ENGINES; STAMPING ENGINES, STEAM CAPSTANS; ORE CRUSHERS; BOILERS and PITWORK of various sizes and descriptions; and all kinds of MATERIALS required for MINING PURPOSES.

WATER JACKET SMELTING FURNACES

PACIFIC IRON WORKS

RANKIN, BRAYTON, AND CO.,

For Copper and Argentiferous Galena Ores.

GENERAL OFFICE AND WORKS,

San Francisco, Cal., U.S.A.

BRANCH WORKS,—CHICAGO, ILLINOIS, U.S.A.

The Pacific Water Jacket Smelters embrace many features that are entirely new and of great practical utility, which are secured by letters patent.

No other furnaces can compare with these for durability, and in capacity for continuous and interrupted work.

More than One Hundred

of them are now running in the various mining districts of the United States, giving results never before obtained as regards continuous running, economy of fuel grade and quality of bullion produced.

These Smelters are shipped in a complete state, requiring no brick or stone work, thus saving great expense and loss of time in construction.

Complete smelting plants made to order, with all the improvements that experience has proved valuable in this class of machinery. Skilled and experienced smelters furnished when desired to examine mines and to superintend constructing and running of furnaces Estimates given upon application. Send for circular.

We refer to A. S. CHURCH, Esq., 118, LEADENHALL STREET, E.C., LONDON.

THE

BEST METAL FOR BUSHES, BEARINGS, SLIDE VALVES,

And other wearing parts of Machinery.

PUMPS, PLUNGERS, CYLINDERS, &c.

PHOSPHOR BRONZE WIRE, TUBES SHEET, RODS TOOLS &c.

STEAM FITTINGS

SOLE MANUFACTURERS UNDER PATENTS,

THE

PHOSPHOR BRONZE COMPANY, LIMITED,

SUMNER STREET, SOUTHWARK LONDON, S.E.

"PHOSPHOR BRONZE" Registered Trade Mark

JOHN BEATSON & SON,

40h, St. Mary's Gate, Derby.

IRON AND STEEL RAILS, of all sections, from 10 to 86 lbs. per yard, new perfect, new slightly defective, or second-hand, with Fish-plates, Bolts and Nuts, Chairs, Spikes, and Points and Crossings to match, when required.

STEEL AND IRON WIRE ROPES, LOCOMOTIVE ENGINES, &c., &c.
BARS, PLATES, SHEETS, &c.
STEEL OF ALL KINDS. PIG IRON OF ALL KIND
Delivered at all Railway Stations and Ports in Great Britain.

WILLIAM BENNETTS,

PATENT MINERS'

SAFETY FUSE MANUFACTURER.

This manufacture embraces all the latest improvements for use in Blasting in Mines, Quarries, or for Submarine Purposes; and is adapted for exploding Gunpowder, Dynamite, or any other Explosive; and is made suitable for exportation to any part of the world.

Price Lists and Sample Cards on application.

All communications to be addressed—

ROSKEAR FUSE WORKS,

CAMBORNE CORNWALL.

CALIFORNIAN AND EUROPEAN AGENCY.

509, MONTGOMERY STREET, SAN FRANCISCO CAL.

J. JACKSON, Manager

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.		Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
3200	Blue Hills t, c, St. Agnes§	4 16 6	⅜	¼ ⅜	0 4 0	0 2 0	May 1881
6000	Carn Brea, c, t, Illogan†§	12 12 11	3¾	3⅝ 3⅞	52 11 8	0 10 0	Nov. 1881
4000	Craignant Bach,* l, Cardigan	5 0 0	—		0 5 0	0 5 0	Nov. 1882
10240	Devon Gt. Consols, c, a, Tavistock*†	1 0 0	3¼	3¼ 3¾	118 7 0	0 6 9	Dec. 1880
4700	Dolcoath, c, t, Camborne	10 14 10	77½	75 77½	36 18 0	0 10 0	Mar. 1884
6400	East Pool, t, c, Illogan	0 9 9	41	40 41	38 17 6	0 18 0	Feb. 1884
12000	Great Holway,* l, Flintshire	5 0 0	—		0 12 0	0 7 6	Sept. 1883
15000	Great Laxey, l, Isle of Man*†	4 0 0	11	10½ 11	29 18 0	0 5 0	Oct. 1883
6400	Green Hurth, l, Durham*	0 6 0	6¼	6 6¼	4 16 0	0 5 0	Dec. 1883
9830	Gunnislake (Clitters), t, c	2 2 0	⅞	⅝ ⅞	0 19 9	0 2 0	Mar. 1882
2800	Isle of Man, l, Isle of Man*	25 0 0	—		83 5 0	1 0 0	Sept. 1880
6000	Killifreth, t, Chacewater	4 3 6	⅜	⅛ ⅜	0 14 6	0 2 0	Nov. 1883
20000	Leadhills,* l, Lanarkshire	6 0 0	2¼	1⅞ 2⅛	1 5 6	0 3 6	Sept. 1883
400	Lisburne,* l, Cardiganshire	18 15 0	—		615 0 0	0 10 0	June 1883
10000	Mellanear, c, Hayle*	2 0 0	1¼	1¼ 1⅛	2 4 3	0 0 6	Jan. 1884
9000	Minera Mining Co., l, Wrexham*	5 0 0	6	5 6	69 11 8	0 2 0	Feb. 1884
20000	Mining Co. of Ireland, cl, c, l*	7 0 0	—		24 0 0	0 2 6	Jan. 1880
11829	North Hendre, l, Wales	2 10 0	—		3 18 0	0 4 0	Nov. 1882
8146	Ditto	1 5 0	—		0 11 3	0 2 0	Nov. 1882
2000	North Levant, t, c, St. Just	13 6 0	—		4 16 0	0 3 0	Feb. 1881
4760	Penhalls, t, St. Agnes§	4 5 0	⅜	¼ ⅜	3 17 0	0 1 6	Jan. 1881
12000	Phœnix United, t, c, Linkinhorne§	6 2 9	3	2½ 3	17 7 6	0 1 6	Apr. 1883
12000	Roman Gravels, l, Salop*	7 10 0	4½	4 4½	9 11 0	0 5 0	May 1883
6123	South Condurrow, t, c, Camborne†	7 5 7	9½	9 9½	11 1 6	0 6 0	Apr. 1884
9000	South Darren, l, Cardigan*	1 10 0	⅜	¼ ⅜	0 4 0	0 2 0	Apr. 1880
6000	Tincroft, c, t, Pool, Illogan†§	13 12 6	5½	4½ 5	51 3 6	0 5 0	Dec. 1881
15000	Van, l, Llanidloes*	4 5 0	2¾	2¼ 2¾	25 13 0	0 2 6	Jan. 1883
15000	West Holway,* l, Flintshire	1 0 0	1¼	¾ 1¼	0 1 0	0 1 0	Oct. 1881
6000	West Basset, c, Illogan†§	7 10 4	4½	4½ 5	28 3 8	0 6 8	Apr. 1882
6000	West Kitty, t, St. Agnes	0 12 0	12¾	12½ 13	2 9 0	0 10 0	Mar. 1884
6000	Wheal Agar, c, Illogan‡	19 6 0	18	16½ 17½	0 5 0	0 5 0	Apr. 1884
12000	Wheal Crebor, c, Tavistock	2 4 0	1⅞	1⅜ 1⅞	1 1 3	0 2 6	Nov. 1883
1024	Wheal Eliza Consols, t, St. Austell	18 0 0	—		59 0 0	1 0 0	Nov. 1883
6300	Wheal Grenville, t, Camborne	15 0 0	6¾	6 6½	1 17 6	0 2 6	Mar. 1884
4295	Wheal Kitty, t, St. Agnes§	5 12 0	⅜	⅜ ⅜	12 18 6	0 1 6	Jan. 1881
3000	Wheal Peevor, t, Redruth§	13 1 0	1	¾ ¾	8 13 6	0 4 0	Mar. 1881

FOREIGN DIVIDEND MINES.

Shares.		Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500	Alamillos, l, Spain*†	2 0 0	1¾	1½ 1¾	2 15 2	0 2 0	Mar. 1884
130000	Almada and Tirito Consol., s*†	1 0 0	½	⅜ ⅛	0 6 3	0 1 0	May 1876
20000	Australian, c, South Australia†	7 7 6	3	2½ 3	1 9 6	0 2 0	Aug. 1883
15000	Birdseye Creek, g, California*	4 0 0	1	⅝ ⅞	1 5 0	0 1 0	Jan. 1884
30000	Bratsberg,* c, Norway†	2 0 0	2	1⅝ 1⅞	0 4 4¼	0 1 2¼	Mar. 1884
130000	California,* g, Colorado	1 0 0	⅝	½ ⅜	0 2 0	0 1 0	Aug. 1883
20000	Cape Copper Mining,*† South Africa	8 0 0	47	45 47	56 7 6	1 0 0	Mar. 1884
65000	Colorado United, s-l Colorado*†	5 0 0	3	2½ 3	0 14 6	0 1 0	May 1883
50000	Copiapo, c, Chili* (£4 shares)†	3 10 0	3½	2⅞ 3⅛	2 14 3	0 3 0	Dec. 1883
70000	English & Australian,*† c, S. Aust.	2 10 0	1	¾ 1	3 2 9	0 1 0	Mar. 1884
2000	Eng.-Aus., g, Vict.* pref. (20000 o.)	1 0 0	—		0 3 8	0 3 8	Apr. 1882
25000	Fortuna, l, Spain*†	2 0 0	3¼	2¾ 3¼	8 11 5	0 3 2	Mar. 1884
72000	Frontino & Bolivia, g, New Gran.*†	2 0 0	1⅛	¾ 1	0 12 0	0 1 0	Dec. 1883
200000	La Plata, s-l, Leadville†	2 0 0	⅜	¼ ⅜	0 12 11	0 1 3	Oct. 1882
5000	Linares, l, Spain*†	3 0 0	3¼	2¾ 3¼	19 10 4	0 3 0	Mar. 1884
20000	Marbella Iron Ore, *, Spain	10 0 0	2½	2 2½	0 10 0	0 10 0	June 1882
185164	Mason & Barry* c, Portugal	10 0 0	12½	12½ 12	3 15 0	0 15 0	Apr. 1884
100000	Oxford,* g, Nova Scotia	0 4 0	7/16	3/16 7/16	0 1 3¼	0 0 1¼	Mar. 1884
80659	Quebrada Rail., Land, & Cop. Venezuel	10 0 0	5	4½ 5	6 per cent.		1882
50000	Panulcillo, c, Chili*†	4 0 0	5½	5 5½	1 18 9	0 3 0	Nov. 1883
25000	Pitangui,* g, Brazil (in. 6000 £1 pd).	0 10 0	—		0 1 0	0 1 0	Sept. 1880
1400	Pontgibaud, s-l, France†	20 0 0	8	6 8xd	30 3 1	0 11 3	Dec. 1883
100000	Port Phillip, g, Clunes*† (£2 shares)	1 0 0	⅛	0 ⅛	1 14 2	0 0 10	Feb. 1881
50000	Rara Fortuna,* s, Argent. Republic.	1 0 0	—		0 3 0	0 1 0	July 1882
54000	Richmond Consol., s, Nevada*†	5 0 0	3¼	3¼ 3¾	14 13 6	0 5 0	Aug. 1883
24532	Rio Tinto,* c, Mortgage Bds., Huelva.	100 0 0	103	100 102	5 per cent.		Apr. 1884
325000	Ditto, shares	10 0 0	21	19 20	4 6 0	0 16 0	May 1884
40000	Santa Barbara,* g, Brazil	0 10 0	—		0 12 9	0 1 0	May 1882
122000	Schwabs Gully, d, Kimberley	10 0 0	8½	7¼ 8¼cd	5 12 6	0 10 0	Apr. 1884
120000	Scottish-Australian Mining Co.*†	1 0 0	2½	2¼ 2½	15 p. cent.	0 1 6	Nov. 1883
80000	Ditto, New	0 10 0	1⅜	1⅛ 1⅜	15 p. cent.	0 0 9	Nov. 1883
22500	Sierra Buttes, g, California*†	2 0 0	1¼	1 1¼	2 6 6	0 0 6	Apr. 1884
40625	Ditto, Plumas Eureka	2 0 0	1¼	1 1¼	3 2 0	0 2 0	Apr. 1884
253000	St. John del Rey*† (£5 Stock and multiple dealt in)			60 70	5 p.c. for half-year,		June 1882
160000	Tambracherry,* g, Wynaad	1 0 0	—		0 0 6	0 0 6	Aug. 1882
625000	Tharsis,* c, sul, Spain (587330 issued)†	2 0 0	6½	6 6½xd	6 18 6	0 11 0	May 1883
20000	Tolima,* g, s, Colombia (A shares)	5 0 0	8	7 8	4 6 6	0 10 0	Jan. 1884
20000	Ditto (B shares)	5 0 0	5¼	4¾ 5¼	—	—	—
25000	Victoria* (London), g, Australia	1 0 0	—		0 13 10	0 0 8	Feb. 1881
100000	Victorine (Nevada, U.S.) Deb. Bds.	1 0 0	—		0 2 0	0 0 6	June 1882
15000	Western Andes, s, Colombia	5 0 0	5¼	4¾ 5¼	4 5 9	0 2 6	Oct. 1883
2100	W. Prussian (5500 pref. sh. £10 pd.)	10 0 0	7	6 7	4 2 0	0 8 0	Apr. 1881
64800	Yorke Pen., c, South Aust. Pref.†	1 0 0	⅞	⅝ ⅞	0 3 0	0 3 0	May 1882

§ Have made calls since last dividend was paid.

NON-DIVIDEND BRITISH MINES.

Shares.		Paid.	Last wk.	Clos. pr.
25000	Aberduna,* l, Denbigh	1 10 0	—	
12000	Anderton, t, c, l, Devonshire	1 2 6	1	¾ 1
12000	Assheton, l, Carnarvonshire*	5 0 0	—	
12000	Bedford Unit.,* c, Tavis. (£1 liab.)	0 14 0	1¼	1½ 1¾
10000	Brada,* l, Isle of Man	1 0 0	—	
30000	British,* s-l, bl, Wrexham	1 0 0	—	
20000	British Manganese Company*	1 0 0	—	
30000	Beuno Consols,* s-l, Flintshire	1 0 0	1	¾ 1
20000	Bwich United,* l, Cardigan	1 0 0	—	
12000	Collacombe Consols, c, bl, Lamerton	0 2 6	—	
50000	Carn Camborne,* t, c, Camborne	1 0 0	1½	1¼ 1¼
37500	Carnarvonshire Cons.,* l, Llanrwst.	2 0 0	¾	½ ¾
6400	Cashwell,* l, Cumberland‡	2 19 0	1⅜	
6000	Cathedral, c, t, Gwennap	1 7 6	⅜	⅛ ⅜
20000	Central Foxdale,* l, Isle of Man	1 17 6	—	
25000	Coed-y-Fedw & Pant-y-Buarth,* l	1 0 0	1¼	1 1¼
2450	Cook's Kitchen, t, Illogan†	35 14 9	17½	12½ 15
50000	Creiglog,* l, bl, Denbighshire	0 17 0	⅞	⅝ ⅞
38400	Crook Burn,* l, Cumberland	0 17 0	—	
48728	D'Eresby Mountain, l, bl, Llanrwst.	0 10 0	5/16	¼ ⅜
12000	Derwent,* l, Durham	4 0 0	—	
60000	Devon Friendship,* c, ars, Tavistock	1 0 0	⅛	1/16 ⅛
12000	Devon Great United* (2l. shares)	1 17 6	⅜	⅛ ⅜
50000	Drakewalls,* t, c Calstock	0 15 0	¼	3/16 ¼
50000	Duchy Peru,* bl, l, s, Cornwall	1 0 0	—	11/16 13/16
12000	East Blue Hills, t, St. Agnes	0 5 0	5/16	3/16 5/16
6000	East Botallack, t, St. Just	1 2 6	—	
6144	East Caradon, c, St. Cleer‡	5 1 0	¼	⅛ ¼
4000	East Chiverton, l, Perranzabuloe	10 17 3	—	
30000	E. Craven Moor,* l, Pateley Bridge	1 0 0	—	
15000	East Devon Cons.,* c, Buckfastlgh.	2 0 0	⅝	½ ⅝
20000	East Long Rake,* l, Wales	1 0 0	—	
25500	East Roman Gravels,* l, Salop	1 0 0	⅛	1/16 ⅛
18000	East Van, l, Llanidloes*	5 0 0	—	
2048	East Wheal Lovell, t, Helston	18 13 6	1	¾ 1
100000	East Wheal Rose,* s-l, Newlyn East	1 0 0	⅜	⅜ ½
25000	Ecton,* c, Wetton	1 0 0	2¼	1 1½
12500	Frongoch,* l, Cardgn (11000 sh.iss.)	2 0 0	—	⅜ ⅛
12000	Gawton,* c, Tavistock	2 0 0	⅜	¼ ⅜
40000	Glasg. Car., c* [30000sh. £1 pd., 10000 15s. pd.]		—	
30000	Gobbett,* t, Devon	1 0 0	⅛	
10000	Goddards,* l, c, Carnarvon	1 0 0	—	
32000	Goginan,* l, Cardiganshire	1 0 0	⅜	¼ ⅜
25000	Goodevere, t, St. Cleer	1 0 0	¼	⅛ ¼
8500	Gorsedd and Merllyn Con., l, Flint.	2 10 0	—	
6000	Great West Chiverton, l, St. Agnes.	0 6 6	⅛	⅜ ⅛
50000	Great W. Shepherds* l, Cornwall	0 5 0	7/16	
20000	Grogwinion, l, Cardigan*	2 0 0	—	
10000	Gwern-y-Mynydd,* s-l, Flint (pref.)	4 0 0	1	⅞ 1
70000	Gwydyr Amal.* l, bl, Carnarvon	1 0 0	—	
8400	Hardshins,* l, Westmore. (10s. sh.)	0 2 6	3/16	⅛ 3/16
12000	Herodsfoot, l, near Liskeard†	1 6 0	¼	⅛ ¼
18000	Hingston Down, c, Calstock*†	0 13 0	¼	⅛ ¼
35000	Holway Consols,* l, Flintshire	1 0 0	—	
25000	Kit Hill Gt. Cons.* c, ars-m, (2l. sh.)	1 2 6	⅛	1/16 ⅛
15000	Lady Ann,* s-l, Llanarmon	1 0 0	—	
15000	Llandegla,* l, Wales	1 0 0	—	
5120	Lovell, t, Wendron	0 16 0	⅜	⅛ ⅜
9000	Marke Valley, c, Linkinhorne‡	7 12 6	½	⅜ ½
6000	Medlyn Moor, t, Wendron	3 15 0	—	
8000	Mona,* c, Anglesea	5 0 0	—	
20000	Mona Consols,* c, Anglesea	1 0 0	⅜	¼ ⅜
15000	Monkstown,* man, Devon	2 0 0	1⅜	1⅛ 1⅜
20000	Mostyn Consols,* s-l, Flint.	1 0 0	1½	1 1½
12000	Morfa Du, z, g, s, Anglesea*	1 0 0	—	
80000	Mounts Bay,* c, t, Breage	1 0 0	5/16	¼ ⅜
6144	Mount Carbis, t, c, Redruth	1 15 0	—	2½ 3
12000	New Caradon, c, St. Cleer	0 5 0	¼	⅛ ¼
2400	New Cook's Kitchen, t, Illogan	9 13 6	2	1½ 1¾
8000	New Dolcoath, t, c, Camborne*	3 0 0	—	
10000	New Holmbush,* t, c, Callington	3 0 0	—	
6000	New Kitty, t, St. Agnes	1 2 0	2	1½ 1¾
25000	New Langford,* s, c, Callington	0 2 6	¼	⅛ ¼
15000	New Redmoor,* ear, Callington	1 5 0	—	
17500	New Terras,* t, St. Austell	2 0 0	½	¼ ⅜
3500	New Tincroft,* t, Lelant	6 0 0	—	
12000	New Trumpet,* t, Wendron	1 0 0	1½	1 1½
30000	New Van Cons. & Glyn,* l	7 0 0	½	⅜ ½
12000	New West Caradon, c, Liskeard	0 6 0	4s.	2s. 4s.
3000	New Wheal Peevor, t, Redruth	0 10 0	—	
12000	North Blue Hills, t, St. Agnes	0 2 6	1/6	1s. 1s.6d.
5328	North Busy, t, c, Scorrier‡	1 19 6	3s	⅛ 3/16
10000	N. D'Eresby Mount.,* l, bl, Carnarv.	1 0 0	—	
25000	North Goginan,* l, Cardiganshire	1 0 0	—	
6400	North Green Hurth,* (3400 1l. pd.)	0 2 6	—	
25000	North Grogwinion,* s-l, Cardigshr	1 0 0	⅜	¼ ⅜
12000	North Herodsfoot, l, Liskeard	0 13 6	—	

NON-DIVIDEND MINES—continued.

Shares.		Paid.	Last wk.	Clos. pr.
50000	North Molton,* c, mn, i, Devon	1 0 0	—	
6000	North Penstruthal, t, c, Gwennap	3 9 0	⅛	⅜ ⅛
2936	North Treskerby, c, St. Agnes	1 0 0	—	
8000	Northern,* l, Durham	8 17 10	—	
40000	Okel Tor,* t, c, a, Calstock	1 0 0	—	
80000	Old Shepherds s-l, Cornwall	1 0 0	⅞	13/16 13/16
60000	Owen Vean & Tregur.,* t, c, Marazion	1 0 0	1½	1 1½
45000	Parys Corporation,* c, Anglesea	1 0 0	⅛	1/16 ⅛
7500	Pateley Bridge, l, Yorkshire	1 0 0	—	
6000	Pedn-an-drea, t, Redruth	4 10 0	½	⅜ ½
6000	Pennant, l, bar, North Wales*	5 0 0	5	4½ 5
20000	Penegarreg, l, Carmarthenshire	1 0 0	—	
15000	Pen-yr-Orsedd,* l, Flintshire	1 0 0	½	¼ ½
15000	Perran Consols,* s-l	1 0 0	—	
12000	Perran Wheal Alfred, c	0 2 6	—	
10000	Polberro, t, St. Agnes	0 2 0	1½	1¼ 1½
6000	Polcrebo, t, Crowan	0 16 6	2	1½ 1¾
4516	Polrose, t, Cornwall	1 12 0	½	¼ ½
10000	Port Nigel Syn,* s-l, Carnar. (4000 is.)	0 15 0	—	
13000	Pr. Patrick,* s-l, (als.12000 pf.10 p.c)	1 0 0	—	
12000	Prince of Wales, c, s, Calstock	1 6 0	⅜	¼ ⅜
36000	Russell United,* c, Tavistock	0 15 6	½	⅜ ½
30000	Silver Hill,* Callington	1 0 0	—	
50000	Sinclair,* l, bl, Whitford	1 0 0	1	¾ 1
40000	Sortridge,* c, Horrabridge	1 0 0	⅛	1/16 ⅛
50000	South Caradon,* c, St. Cleer†	0 15 0	9/16	9/16 11/16
6000	South Carbis, t, c, Redruth	0 10 0	—	1½ 1¾
42000	So. Devon Unit.,* c, Buckfastleigh.	1 0 0	⅜	¼ ⅜
5000	South Dolcoath, c, t, Illogan	0 19 0	1	¾ 1
6000	South Kitty, t, St. Agnes	0 10 0	¼	⅛ ¼
6000	South Penstruthal, t, c, Gwennap	3 16 6	½	⅜ ½
30000	So. Phœnix & Caradon,* t, c, Linkinhn.	1 0 0	⅜	¼ ⅜
6000	South Tolcarne, t, c, Camborne	5 11 6	1½	1¼ 1½
2043	South Wheal Crofty, c, Illogan	5 19 6	4½	3¾ 4¼
6000	South Wheal Frances, t, Illogan†	9 19 4	10½	10 11
30000	Standard,* l, bl., Llanrwst	1 0 0	1½	1 1¼
40000	Tamar, s-l, Bearalston*	1 0 0	¾	½ ¾
110000	Tankerville Gt. Consols, l, Salop*.	1 0 0	1/16	1s. 1/16
12000	Trebartha Lemarne, t, Northill	0 6 3	⅜	¼ ⅜
6000	Tregembo, t, c, Cornwall	4 0 0	—	
50000	Tregontrees and Old Polgooth Con.	1 0 0	¼	⅛ ¼
100000	Treseavean,* t, c, Gwennap	1 0 0	⅜	⅛ ⅜
60000	Trevarren United,* t, Cornwall	1 0 0	—	
8000	Trevaunance, t, St. Agnes	0 6 0	2¼	2 2¼
1000	Vaughan,* l, Cardiganshire	10 0 0	—	
50000	Weardale,* l, Northumber. (4l. share)	1 2 6	1⅜	1⅛ 1⅜
12000	West Assheton, l, Carnarvon	1 0 0	—	
12000	West Caradon, c, St. Cleer	0 9 3	4s.	1/16 ⅛
30000	West Cornwall,* t, Cornwall	1 0 0	1½	1 1½
3000	W. Craven Moor, l, Pateley Brdge*	10 0 0	—	
12000	West Crebor, c, Tavistock	0 11 6	⅛	1/16 ⅛
10240	West Devon Consols, c, Calstock	1 2 0	¼	⅛ ¼
10000	West Godolphin, t, c, Breage	1 3 6	1¼	1 1¼
12000	West Gonamena, c, St. Cleer	0 1 0	⅛	1/16 ⅛
20000	West Lisburne,* l, Cardigan	1 0 0	⅜	¼ ⅜
3000	West Mary Ann, l, Menheniot	1 18 0	¾	½ ¾
30000	Westminster Consols,* l, Flintshire‡	1 0 0	½	¼ ½
20000	W. Pateley Bridge, l, Yorkshire	1 0 0	—	
12000	West Phœnix, t, Linkinhorne	1 5 0	⅜	¼ ⅜
6000	West Polbreen, t, c, St. Agnes	0 11 0	1	¾ 1
5190	West Poldice, St. Day‡	7 10 6	⅝	⅜ ⅝
2048	West Wheal Frances, t, Illogan‡	39 18 3	11	11 11½
3000	West Wheal Peevor, t, Redruth	4 0 6	¼	⅛ ¼
2400	West Wheal Seton, c, Camborne†§	19 10 0	5	4 4½
6144	Wheal Basset, c, Illogan‡	8 19 6	4¼	3½ 4
4000	Wheal Benny, t, c, Latchley	5 0 0	—	
3000	Wheal Boys, t, Redruth	1 3 6	—	
50000	Wheal Castle,* c, t, St. Just	1 0 0	1½	1 1¼
12000	Wheal Coates, t, St. Agnes	0 10 6	¼	⅛ ¼
2585	W. Comf., & No. Tres., t, c, Gwennap	2 2 0	1	¾ 1
50000	Wheal Elizabeth,* t, Cornwall	1 0 0	—	
12288	Wheal Jane, t, Kea‡	3 3 0	2s.	1s. 2s.
12000	Wheal Jewell, c, St. Hilary	1 0 6	¼	⅛ ¼
25000	Wh. Hony and Trelawny, s-l, Lisk.	2 0 0	—	
12000	Wheal Lusky, t, Callington	0 3 9	½	⅜ ½
2000	Wheal Owles, t, St. Just‡	7 3 0	—	
30000	Wh. Silver & Lanteglos,* s-l, Camelfd.	1 0 0	1	¾ 1
6000	Wheal Sisters, t, Lelant	4 2 6	⅜	¼ ⅜
4096	Wheal Uny, t, c, Redruth	19 19 6	⅝	½ ⅝
21866	Wye Valley, l, Montgomery.*	1 0 0	—	
60000	Yeoland Consols,* t, Devonshire	0 12 6	¾	⅝ ¾
4000	Ystwith,* l, Cardigan	1 0 0	—	

bl, blende; *c*, copper; *g*, gold; *l*, lead; *s*, silver; *sl*, slate; *s-l*, silver-lead; *t*, tin; *z*, zinc; *i*, iron; *a*, arsenic; *d*, diamond. * Limited Liability Companies; † quoted on the Stock Exchange. ‡ have paid dividends.

NON-DIVIDEND FOREIGN MINES; FOREIGN AND MISCELLANEOUS STOCKS; TRAMWAYS; INSURANCE COMPANIES; GAS, IRON AND COAL, WAGON COMPANIES, &c.

NON-DIVIDEND FOREIGN MINES.

Shares.		Paid.	Clos. pr.
50000	Akankoo,* g, Gold Cst. (100000 iss.)	1 0 0	5/16 7/16
64880	Anglo-African,* d, Kimberley,†	10 0 0	1½ 1¾
65000	Anglo-Mexican,* (also 325 sh. £1)	5 0 0	
12000	Arendal, c, Norway	4 0 0	
20000	Asia Minor,* s-l, Lidjessy, Sivas	0 15 0	⅜ ⅜
28000	Belt,* c, Lake Sup., (22000 £4 paid)	5 0 0	
40000	Brazilian, g,* Brazil	1 0 0	
200000	British Australian,* g, N. So. Wales	1 0 0	
18000	Broadway,* g, California	5 0 0	⅜ ⅜
10000	Buena Ventura,* l, Spain (fy.pd)	2 0 0	
80000	Callao Bis,* g, Venezuela	1 0 0	5/16 5/16
15000	Canada,* g	1 0 0	
82500	Canadian, c, sul,* Canada†	4 0 0	¼ ⅜
23000	Central Jagersfontein Diamond*	5 0 0	¼ ¾
00000	Chile,* g, Venezuela	1 0 0	3/16 5/16
75000	Colar,* g, Mysore	0 15 0	
75000	Colombian Hydraulic, g, Colombia	1 0 0	¼ ⅜
68000	Cootacovil,* g, Wynaad	0 15 0	
25000	Chontales, g, s, Nicar.*† (108749 iss)	1 0 0	3/16 5/16
2000	Clear Creek,* s, Colorado	1 0 0	
20000	Devala Central,* g, Wynaad	1 0 0	
00000	Devala Moyar,* g, Wynaad†	1 0 0	⅜ ¼
75000	Devala Provident,* g, Wynaad†	0 10 0	
100000	Dingley Dell,* g, Devala, India	1 0 0	
125000	Don Pedro North del Rey*	1 0 0	
205168	Eberhardt, s, Nevada*†	1 0 0	⅛ ¼
65000	Eureka,* s, Nevada	1 0 0	
100000	Exchequer, g, s, California*†	1 0 0	1/16 3/16
40000	Georgia,* g, United States	10 0 0	
65000	Gold Coast,* g, Wassau	1 0 0	
40000	Gold Hill,* g, North Carolina	1 0 0	¼ ⅜
50000	Gold Mining Assn. of Canada*	1 0 0	
75000	Great Southern Mysore,* g	1 0 0	
20000	Hoover Hill,* g, North Carolina	1 0 0	1/16 ⅛
12000	Hultafall,* l, bl, Orebro, Sweden	5 0 0	
400000	Indian Consolidated,* g	1 0 0	1/16 3/16
240000	Ind. Glenrock,* g, Wynaad†	1 0 0	1/16 3/16
100000	Iron Gate* cl. chr. Hungary	1 0 0	1 1¼
150000	Isabelle,* g, s, California	1 0 0	
100000	I.X.L., g, s, California*	1 0 0	1/16 3/16
50000	Javali, g, Nicaragua*	2 0 0	
185000	Kapanga,* g, New Zealand	1 0 0	⅛ ¼
100000	Kohinoor,* s, Colorado	1 0 0	⅜ ½
500000	Lisbon-Berlyn,* g, South Africa	1 0 0	1 1¼
65000	London and California, g*†‡	2 0 0	
135000	Madras,* g, Mysore	1 0 0	
100000	Michipicoten,* nat. c, Quebec	1 0 0	⅛ ⅜
9000	Missouri, l, pref (fully paid)	10 0 0	
200000	Montana,* g, s, U.S.A.	2 0 0	2 3
50000	Moselle,* l, b-l, Germany	1 0 0	
15000	Mysore,* g, India†	1 0 0	3/16 5/16
75000	New Callao,* g, Venezuela	1 0 0	3/16 5/16
78500	New Emma,* s, Utah	10 0 0	⅛ ⅜
37000	N. Gold Run,* hyd, Cal. (& 11000 pref	1 0 0	
300000	New Potosi,* g, Venezuela†	1 0 0	⅜ ¼
200000	Nouv. Monde,* g, Ven. (en com.)†	1 0 0	1/16 3/16
100000	Nundydroog,* g, Mysore	1 0 0	
50000	Olathe,* s-l, Leadville, Colorado	1 0 0	
125000	Ooregum,* g, Mysore	1 0 0	
12000	Oregon, g, U.S. (4000 prf. sh.)	0 2 6	
15000	Organos,* g, Colombia	1 0 0	1⅜ 1⅝
20000	Oritá,* g, Colombia	1 0 0	⅜ ⅞
75000	Oscar,* g, Norway (£1)	0 5 0	
80000	Ouro Preto* g, Brazil	5 0 0	
80000	Pestarena United, g, Italy*†	2 0 0	
100000	Pierre d'Or,* g, Spain	1 0 0	
80000	Pierrefitte* (20000 pref.)	1 0 0	
100000	Placerville, g, q, California	1 0 0	
40000	Ravenscliff g, N. Zind; c, S. Aust.	1 0 0	
90000	Rhodes Reef,* g, Wynaad†	1 0 0	3/16 5/16
25000	Rico, s, Colorado (non.-assessable).	2 0 0	
8600	Rio Grande do Sul* (and 31,030 pref.)	5 0 0	
100000	Rosa Grande, c, Brazil*† (£1 sh.).	1 0 0	
25800	Ruby and Dunderberg, g, Nev.*†	10 0 0	1 1¼
30000	Santa Cruz,* (ex. 10s. retd. cap.)	1 0 0	

NON-DIVIDEND FOREIGN MINES—continued

Shares.		Paid.	Clos. pr.
250000	Sentein,* s-l, bl, Ariège, France	1 0 0	
200000	Silver Chord,* s, Colorado	1 0 0	11/16 13/16
150000	Silver Peak,* s, Colorado	1 0 0	
00000	Souback & Catir Alan,* g s-l, Turkey	1 0 0	
207363	So. Austral. Cop. Mines (Corp. of)	1 0 0	¼ ⅜
50000	S. A. Gold Explor. and Land	1 0 0	
100000	South-East Wynaad, g, India†	1 0 0	1/16 3/16
100000	Spitzkop,* g, Transvaal	1 0 0	¾ 1
250000	Taunus,* s-l, c, Germ. (& 100,000 pf.)	1 0 0	
100000	Tocopilla,* c, Bolivia	0 15 0	⅛ ¼
43174	United Mexican,*†‡ s, Mexico	29 12 9	12 12½
50000	Virneberg, c, Rheinbreitb., Ger.*	2 0 0	
200000	Victoria,* g, Venezuela	1 0 0	⅜ ⅞
120000	Wentworth,* g, Wynaad	1 0 0	1/16 3/16
75000	West Callao,* g, Venezuela	1 0 0	4s. 6s.
100000	West Frntno & Boliv.,* g, Colombia	1 0 0	
80000	Wynaad Perseverance,*† g	1 0 0	1/16 3/16
75000	Yorke Peninsula, c, So. Australia†	1 0 0	⅜ ¾
110000	Yuba River,* g, hyd California	1 0 0	

INSURANCE COMPANIES.

Issue.	Shares.		Pd.	Clos. pr.
50000	100	Alliance British and Foreign	11	36¼ 37½
10000	100	Ditto, Marine	20	20 22
50000	20	British and Foreign Marine [L].	4	21½ 22½
550000	50	Commercial Union	5	17½ 18½
50000	50	Eagle	5	6 6½
5000	10	Globe Marine [L]	2	1¼ 1¾
27500	100	Imperial Life	10	22 24
13453	100	Indemnity Marine	50	14½ 15
100000	10	Lion Fire [L]	1¼	⅝ ⅞
49626	20	L'pool & Lond. Globe (£1 annuty)	2	23½ 24½
35862	25	London	12½	48 52
40000	25	London and Lancashire Fire	2½	5 5½
50000	20	London and Provincial Marine [L]	2	4 4½
40000	25	Marine [L]	4½	27½ 28½
50000	10	Merchants' Marine [L]	2	1 1½
50000	10	Maritime [L]	2	3¾ 4¼
80000	25	North British and Mercantile	6¼	26½ 27½
30000	100	Northern	10	41 43
40000	25	Ocean Marine	5	5 5½
	—	Phœnix	—	195 205
200000	10	Queen	1	2¼ 2¾
100000	10	Railway Passengers	32s.	7¼ 7¾
200000	50	Rock Life	½	7½ 8¼
50000	10	Sea	2	—
135000	20	Lancashire	2	5¾ 6
4000	20	Standard Marine	4	—
10000	20	Thames and Mersey Marine [L].	2	10½ 11
40640	20	Union Marine, Liverpool [L]	3½	4¾ 5¼
50000	20	Universal Marine [L]	3	6½ 7

MISCELLANEOUS.

Shares.	Company.	Paid.	Price.
10	Anglo-American Brush	8 0	1⅜ 1
10	Ditto do.	10 0	3⅜ 4
5	Australasian Electric	3 0	—
25	Australian Agricultural	21 10	107 111
5	British Colonial & Gen. Invst.	5 0	5 3/16 5 7/16
1	Gen. Loan Discount & Mort.	1 0	1 1/16 1 3/16
5	Hammond Elect. L. & P. Sup.	5 0	¾ 1
1	Home Mines Trust	1 0	15/16 1 1/16
5	Indian and Oriental Electric	2 0	
10	John Vernon Hope & Co.	5 0	5½ 5¾
10	Ditto, preference	10 0	10½ 11
1	Maxim-Weston Electric	1 0	½ ¾
10	Nat. Stan. Land, Mort. & Inv.	5 0	5¼ 5¾
Stk.	Scottish Australian Invt. Co.	100 0	240 250
Stk.	Ditto 6 per c. guar. pref.	100 0	132 137
Stk.	Ditto 5 per c. guar. pref.	100 0	112 117
5	Swan United Electric	3 0	⅞ 1⅛
10	United Asbestos	10 0	1⅜ 2

IRON AND COAL COMPANIES.

Shares.	Company.	Paid.	Price.
	Alltami Colliery Co. [L]	5 0	
100	Ashbury Co. [L] (new)	90 0	26 27
3	Bagnall, John, and Sons [L]	3 0	
10	Bunhar Coal Co. [L]	10 0	
10	Bilbao River & Cantabrian R. Co.	10 0	6½ 7
30	Bolckow, Vaughan, & Co. [L] A	12 0	9½ 10
50	Brown, Bailey, and Dixon [L]	40 0	
100	Brown, John, and Co. [L]	75 0	57¼ 57¾
100	Cammell and Co. [L]	80 0	67½ 68
20	Cannock & Huntington Coal [L]	10 0	10½ 10 dis
10	Central Swedish Iron & Stl. [L]	10 0	
50	Charlton Iron Co. [L]	50 0	
10	Chillington Iron Co. [L]	10 0	⅜ ⅝
10	Consett Iron Co. [L]	7 10	19 19½
1	Consett Spanish Ore [L]	1 0	2¾ 3
20	Darlington Iron Co. [L]	18 10	¾ 1¼
50	Davy Brothers [L]	22 10	
25	Ebbw Vale Co. [L]	20 0	4½ 5
8	Genl. Mining Ass. [L] (ful.pd.)	8 0	6¼ 6¾
50	Knowles, Andrew, and Co. [L]	25 0	6⅜ 6⅝
20	Llynvi and Tondu [L]	20 0	3 3¼
10	Lydney & Wigpool Iron Ore [L]	9 12	½ 1
10	Midland Iron Co. [L]	5 0	
10	Monkland Iron & Coal Co. [L]	10 0	
4	Mwyndy Iron Ore [L]	3 15	⅜ ⅜
62½	Nant-y-Glo & Blaina (8 p.c. prf.)	62 10	47½ 48
3	Nerbudda Coal and Iron [L]	2⅝	1⅞ 2⅛
10	Newport Abercarn Coal Co. [L]	10 0	9½ 10
35	Palmer's Shipbldg. & Iron [L]	35 0	25 25¾
100	Parkgate Iron Co. [L]	85 0	71 73
20	Patent Nut and Bolt [L]	14 0	24¾ 25¼
50	Pearson and Knowles, B.	50 0	29 31
20	Pelsall Coal and Iron [L]	20 0	11 12
5	Rhymney Iron Co. [L]	5 0	1½ 1¾
10	Sandwell Park Colliery Co. [L]	10 0	
100	Shotts Iron Co. [L]	100 0	27½ 30
25	Sheepbridge Iron and Coal [L]	20 0	7⅞ 8⅛
50	Silkstone & Dodw. Cl. & Iron [L]	45 0	
50	Somorrostro Iron Co. [L]	50 0	
100	Staveley Iron and Coal Co. [L]	60 0	60 60½
100	Ditto ditto B.	10 0	10 10½
5	Teesside Iron & Engine Works	5 0	⅛ ¾
50	Tredegar Iron and Coal, A [L]	30 0	20½ 21
25	Ditto ditto B.	25 0	17½ 18
10	Vancouver Coal [L]	8 0	5½ 6
25	W. Cumberland Iron & Steel [L]	20 0	4⅞ 5⅛

BANKS.

Issue.	Shares.		Pd.	Clos. pr.
100000	10	Agra [L]	all	9 9½
80000	20	Anglo-Egyptian Banking [L]	all	14½ 15½
30000	40	Bank of Australasia	all	84 87
12500	20	Bank of British Columbia	all	22 23
120000	50	Bank of British North America	all	54 56
10000	25	Bank of Egypt	all	25 27
50000	20	Bank of New South Wales	all	66 68
100000	10	Bank of New Zealand	all	26½ 27½
25000	25	Bank of South Australia	all	44 46
120000	50	Bank of Victoria	25	36 38
40000	20	Chartrd. of Ind., Aust., & China.	all	21½ 22½
30000	25	Ch. Merc. of Ind., Lond., China.	all	16 17
20000	100	Colonial	30	57 60
50000	20	English Bk. of Rio de Janeiro [L]	10	12¾ 13⅜
60000	25	London and River Plate [L]	10	13½ 14½
60000	7	London and San Francisco [L]	all	5⅜ 6⅜
150000	20	London Chartered of Australia	all	19 20
100000	10	National Bank of N. Zealand [L]	3¼	3⅜ 4
60000	25	Oriental Bank Corporation	all	
12500	10	Queensland National [L]	5	12 12½
40000	100	Stndrd. of South Africa [L].	25	39 41
2000	25	Union of Australia	all	72 74

GAS COMPANIES.

Issue.	Shares.		Pd.	Clos. pr.
5000	20	Bahia [L]	all	24 25
510000	5	Bombay [L]	all	6½ 7
10000	5	Ditto, New [L]	4	4½ 5
29700	Stk	Brentford Consolidated	100	194 199
14000	20	British Gaslight [L]	all	40 42
50000	Stk	Commercial Consolidated	100	240 250
20000	20	Continental Union [L] Orig.	all	35 36
20000	20	Do. do. New, 1869, 1872	14	24½ 25½
10000	20	Do. do. 7 per ct. Preference	all	29 31
23408	10	European [L]	all	19½ 20½
94850	Stk	Gaslight and Coke, A, Ord.	100	208 213
284200	Stk	Do, 4 per cent. Deb. Stock	100	106 108
5000	10	Hong Kong and China	all	17 18
2800000	Stk	Imperial Continental	100	202 207
12000	5	Malta & Mediterranean [L]	all	2¾ 3¼
100000		Metrop. of Melbourne 6 p.c. Deb.		
25000	20	Monte Video [L]	all	17½ 18½
10000	5	Ottoman [L]	all	4 4½
30000	5	Oriental [L]	all	7¾ 8¼
27500	20	Rio de Janeiro [L]	all	26½ 27½
500000	Stk	South Metropolitan, A	100	260 270
50000	Stk	Ditto, ditto. B	100	219 224

TRAMWAYS.

Issue.	Shares.		Pd.	Clos. pr.
40000	5	Anglo-Argentine [L]	all	
10000	10	Barcelona [L]	all	8 9
7140	10	Belfast Street Tramways	all	9¼ 9¾
3050	10	Birkenhead, Ordinary	all	2 3
3000	10	Ditto, 6 per cent. Preference	all	6½ 7½
9290	10	Bristol [L]	10	6 7
25000	10	Bordeaux Tram & Omnibus [L].	all	8¾ 9¼
25050	10	Calcutta [L]	all	9 9½
3200	10	Chester [L]	all	
24000	10	Dublin	all	8 9
14690	10	Edinburgh Street Tramways	all	9½ 10
35000	10	Glasgow Tramway & Omni. [L].	9	15 16
10000	10	Hughes Loco. and Tram. works.	all	
7500	10	Hull Street Tramways	all	9 9½
7500	10	Imperial [L]	all	1¼ 1¾
34000	10	Liverpool Unit. Tram & Om. [L]	all	9½ 10
25000	10	London [L]	all	15½ 16
15000	10	London Street Tramways	all	17½ 18
60000	10	North Metropolitan	all	18 18½
8000	10	Nottingham and District [L]	all	8 8½
15947	10	Provincial [L]	all	7½ 8½
6000	10	Sheffield	all	4½ 5
5000	10	Southampton	all	5¼ 5¾
6000	10	Sunderland [L]	all	4½ 5
10000	10	Swansea [L]	all	
12000	10	Tramways of France [L]	all	4½ 5
16500	10	Tramways of Germany [L]	all	12½ 13½
20000	5	Tramways and Gen. Works [L].	all	
40000	5	Tramways Union [L]	all	3½ 4
25000	10	Vale of Clyde	6	
7200	10	Wolverhampton [L]	all	4 4½

TELEGRAPH COMPANIES.

Shares.		Pd.	Clos. pr.
Stk.	Anglo-American	100 0	31½ 32
10	Brazilian Submarine	10 0	10½ 10¾
10	Cuba	10 0	9½ 10½
10	Direct Spanish	9 0	4¼ 4¾
20	Direct United States Cable	20 0	9⅝ 9⅞
10	Eastern	10 0	10⅞ 11⅜
10	East. Exten. Austr. and China	10 0	11½ 11¾
10	German Union	10 0	9¾ 10¼
10	Great Northern of Copenhagen	10 0	13⅜ 13⅞
25	Indo-European	25 0	31 32
10	London Platino Brazilian	10 0	3¼ 3¾

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